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ORIGINAL ARTICLES

HOSPITAL CONSTRUCTION WITH A VIEW TO ECONOMY IN MAINTENANCE*

J. NEWELL HOLCOMB, M. D.
Grand Rapids, Mich.

An article of the nature suggested is perhaps remote from the purposes of study of a strictly medical society. Yet our patients require hospital facilities and adequate conveniences within range of their finances. Further, it would appear, from a cursory review of the advisory and active managing boards of hospitals, that they are, in the main, made up of people actuated purely by philanthropic motives and ofttimes not aware of the actual demands. The many and frequent expensive changes, the inconvenience, the useless expenditure of energy, the practical impossibility of economical administration, and finally the early condemnation of buildings as unfit or unsuited for hospital needs, apparently indicate that either the advisory board or architect was at fault.

Perhaps we as physicians are negligent in our stand, or because of lack of qualifications permit positions to revert to laymen which logically by virtue of our interest in the physical welfare of the community at large should be controlled by medical men. It is because of this possible lack of knowledge of what are essentials in hospital construction that I desire to present a very hasty review of some points which have occurred to me.

I have no desire to become too technical, nor do I desire to discuss possibilities with unlimited funds; simply those essentials in primary cost which concern cost of maintenance and therefore ultimate per capita cost, be this to state, municipality or individual.

The site is a matter of prime importance, and should possess the property of high, well-drained land of adequate area as can be subsequently added to as required and without excessive cost. Choose pure air, and under certain conditions pure and abundant water supply, and much progress has been made toward ideal conditions.

A practical building rule in cities calls for alignment with points of compass. Ideal plans call for that alignment which gives all portions of a building sunshine some time during the day. In first case, let wards run north and south, is reply of ninety out of one hundred hospital superintendents.

Having chosen site, and having in mind the number of beds, our cost of building

*Read before the Kent County Medical Society, November 26, 1910.

refinements necessarily depends upon circumstances. The cost of building thirty-five hospitals in this country represents $70 to $4,000 per bed, averaging $1600. Whether the building be a gift, state or municipal, the same rigid economy with reference to possible future use should apply.

It is conceded at present that a practically fireproof building can be constructed at but small increase in cost over any other construction. And in view of such, disregarding insurance saved, disregarding everything but the flash of terror which must overwhelm you when your helpless patients are in actual imminent danger of fire, would it seem out of place that this body vitally interested should be placed on record as requesting legal enactment that no building should be erected or rebuilt for hospital purposes, or be used for hospital purposes, be patients sane or insane, excepting it be fireproof?

Under the caption of construction of the building, I do not consider quarters for the nurses or employees, for it would seem consensus of opinion demands that they be at least housed independent of hospital building.

Centralization is the keynote of economy, and that increases in a very definite ratio with the number cared for. Without doubt the unit system is the proper one, be this city or suburb, and best serves idea of centralization. For general purposes the L. T. E. or modified H. construction is best, —each successive type being an advance or extension of the previous as to capacity, and presents the best, without doubt, opportunities for future expansion at minimum cost. The arrangement similar to that of the hub of a wheel and its spokes may have certain advantages where land is of no great value, and under certain conditions, but it would seem an entirely uncalled-for distribution. As to the "sky-scraper" type, like the new Jefferson Hospital at Philadelphia, of eleven stories, I question very strongly its popularity as I do its desirability. There can be no disadvantage, however, in a multiple story building, and it certainly has the advantage of minimum primary cost per capita. Dr. Oschner is an advocate of this style, while Mr. Taylor, a prominent Eastern hospital architect, is an advocate of the single story construction.

The foundation of a building must be heavy enough at first. A roof can be rebuilt, but with a weak foundation you have no recourse. So let our building rest upon concrete foundation, which in proper construction presents a solid homogeneous mass of maximum weight and strength; impervious to external moisture and incapable of acting by capillarity to future destruction of walls of wards. Proper construction implies ample dimensions, and tested grade of cement, and clean gravel or crushed stone and sand in ratio not to exceed one to seven, and water in such quantity that you have a thorough mixture of "sloppy" consistency.

The walls, outside and supporting inside, may be of brick and mortar or of cast cement, or in higher buildings of steel skeleton and brick and mortar. Of these for average purposes brick and mortar is all satisfactory. Brick unglazed, however, will absorb its own weight of water in a rain storm, and thus often mean great expense in interior plastering. Glazed brick will avoid this, and spells economy later in heating and repairs. Improperly slaked lime and quicklime in the mortar will show for years in white spots on walls, internal or external, as will mortar laid in cold weather. The walls should be treated on the inside with one of the various tested waterproofing preparations on the market. Partitions at present are built of various fireproof products or cast cement, metal

lath on wood not having the standing formerly held.

The floors in a fireproof building are built in the following manner:

A heavy framework is laid flush with supporting walls, and resting upon heavy temporary pillars upon the ground. Upon this skeletal floor are placed square hollow tile of suitable size, leaving interspace for girders. In these spaces are placed reinforcing irons. Into these spaces is then poured a concrete mixture which forms a solid girder after proper setting. The supporting walls are then raised another story, and our substructure can be utilized in forming floor above. Such a floor should be tested as built, and is capable of forming a floor span up to forty feet free from posts or pillars, and is of course absolutely fireproof.

Such a process is continued to the roof, which may be of steel girders or wood as desired, of proper slant and of slate covering laid absolutely flat and free from curls or cracks. Gutters of best quality tin and heavily painted and repainted without undue delay.

With the above one has a shell almost homogeneous in its structure, absolutely fireproof and practically indestructible. Window casings are now of metal. This leaves to burn, doors, casings and floors, which are practically negligible quantities of wood. This with all electric wiring in metal sheaths, and all hot air pipes in brick or cast cement flues, renders fire to be absolutely inconsidered.

It has been mentioned that the so-called unit system is the highest present advance in hospital construction, and all newer buildings are so designed. By the unit system we mean a building such that each section be complete in itself. The advantages are obvious: economy in number of employees; absolute check of one department against another in all expense; in case of appearance of contagion, one section can be completely isolated, and, finally, in case of a partially filled hospital, service in one unit can be completely discontinued and all expense of heat, lights and housekeeping absolutely and totally eliminated. The arrangement in a section or unit depends upon several factors, primarily the relative ratio of private room beds to ward beds and the class catered to. The number of patients in a ward has been subject to wide differences of opinion. The majority feel, however, that a ward can be most economically and advantageously conducted with about twenty beds to each ward, and size would indicate twenty-four to twenty-eight feet represents good width, twelve to fourteen feet proper height, and length dependent upon number of beds, a ward of twenty beds requiring about sixty feet. In wards with windows on each side I personally favor twenty-four feet wards. This provides ample space between the two rows of beds. Further, in case of future changes, a long room twenty-four feet in width can be partitioned and provides ample size private rooms and halls of eight feet in width, which should be in all cases the minimum width of corridors. In wards with windows on but one side, fifteen feet in width is good, and should provide for from four to eight patients; and in pressing needs twenty-five to fifty per cent. more beds can be added without in any sense detracting efficiency of service. It is desirable that a window should be placed between each bed or each two beds, and I may suggest you may gain twenty-five per cent. of number of beds and consequent income of hospital by judicious spacing of windows. A further word as regards windows. They are as indicated in metal frames; but an additional outside sash for cold weather will mean very much in heating bills later. Private wards, in my opinion, should be arranged in series of three,

with private bath between two. Such gives divers choice in rooms and consequent price income to hospital. Two single rooms with private bath or one suite with or without bath. Regarding further arrangement of a section, we must provide for nurses' offices, diet-kitchens equipped with cupboard space, drains, cooking-tables, gas and electric plates and ovens, hot and cold water, and high pressure steam, linen rooms of capacity for section, locker rooms of ample space for each patient, toilet and baths for patients and staff, utensil room, sun or rest rooms for patients, and, finally, rooms for moribund patients from wards. Certain governmental hospitals do not permit such patients to be moved from wards.

Construction of floors presents a most perplexing problem in hospital construction, and yet evolves itself into a matter of refinement and funds available. The ideal floor is impervious to moisture, is free from cracks and crevices, of uniform and permanent color, and which can be easily and cheaply cleaned. There are a great variety, and no new type of patented floor should be adopted unless it can show five years of actual service. Marble in sheets sixteen by twenty-four inches and smaller, marble mosaic, terrazo, baked clay tile and patented floors of asbestos and asphaltum, wood, cork, rubber, linoleum, glass, slate and others. Terrazo is popular; is made by mixing dust free (and this is important) marble chips in a so-called rich mixture of high grade cement. This is free from cracks, makes a good joint with the walls and is not expensive. Cork laid in sheets upon our roughly prepared skeletal floor and covered with linoleum with glued and cemented joints is good and expensive. Rubber, to my idea, is only mentioned to be condemned. All in all, expense, durability and general satisfaction considered, first-class, thoroughly air-dried, tongued and grooved long strips of beech, oak or maple flooring laid on thoroughly dried sub-base and well nailed bids very strongly for favor in wards, halls and private rooms. Such a floor occasionally oiled or waxed will stand a most severe strain, does not cost excessively, does not require so heavy a sub-floor as other types, and adds very materially to strength of building.

For use in diet-kitchens, baths and toilet rooms,* morgues, laboratories and such, wood is not in any sense desirable and its use should be discouraged. Terrazo or plain cement is preferable. A cement floor can be made by using high-grade cement in a sufficiently rich mixture and properly trowled, which is of such quality that it is equal in hardness and moisture-resisting properties to marble. It has the advantage of being free from joints and makes excellent union with wainscoting. Unfortunately the popularity of cement has been greatly handicapped by poor workmanship, and naturally so since its possibilities are not fully appreciated by the average workman. Incidentally, I may mention that imitation marble floors and wainscoting may be produced by incorporating silk threads of varied hues in the cement.

Walls are subject to many troubles, of which I mention only two obscure causes. A poor foundation will by capillarity absorb seepage sufficient to destroy almost any finish, as will absorption through wall from rain. All walls should be finished in the hard plaster coat free from trowel joint and then painted. Several coats are essential in painting; first, a very thin glue sizing coat, then lead and oil, glue sizing, lead and zinc and oil, glue, and final finishing coat of flat white enamel, which is cheaper and entirely proper; colors, however, perhaps are desirable in private rooms. A wall should stand some such severe test as this before accepting. Apply a mixture of

old wagon grease and soot to painted surface. This should be washed clean and without any damage to the surface. Such a wall will stand washing for years with no further cost for finishes, and, further, will hold plaster on the walls and avoid chipping and is cheaper eventually than any other treatment.

Electric lighting is proper system. The wiring is all in metal sheaths imbedded in the cement sub-floors. The light current enters from generating plant and is controlled by fuse. This is subdivided into each section controlled by fuse in box in nurses' office. This is further subdivided into series of not to exceed twelve lights on a circuit. The advantages are that in case any circuit becomes disabled, many lights are not out and wires are not overloaded. An overloaded wire will in time crystallize, become brittle and break, meaning expense in locating break and consequent expense in rewiring, even to perhaps necessitating tearing up an entire floor. Whether a hospital should generate its own current depends chiefly on cost of current furnished.

Some hospital builders place kitchens on top floor of buildings, thus hoping to obviate kitchen odors. While such is without a doubt important, it can practically be overcome by judicious independent ventilating systems with proper air intake. This is important, since in this case particularly incoming air must be warm, thus reducing to a minimum steam vapor which is disastrous to walls and equipment. Kitchens on top floors mean considerable expense in conveying coal and food that distance. Further, ultimate economy is materially influenced by equipment, which is not considered excepting that under certain conditions a refrigerating plant is a valuable asset. Apparently paradoxical though it may seem, in a certain insane asylum, while it cost nothing for ice nor its housing, a refrigerating plant was saving money over interest on investment and operating expense by reason of timely purchases of perishable products.

Morgues are deserving of thoughtful consideration of the painful experiences of friends and relatives as well as the practical facilities for pathological studies.

Be there one or more operating rooms, the same predominant ideal of centralization must prevail insofar as a central sterilizing room is concerned; since one plant can amply provide for much work. The size of the room depends upon one prominent factor, whether it be for clinical purposes or not. This should be independently ventilated and heated and lighted, should be preferably tile or marble floor and wainscoting, should be facing north with ample natural light.

The advanced ideas regarding hydrotherapeutics and electrotherapeutics would apparently indicate that such an equipment should be provided for if not installed.

A discussion of the heating and ventilating systems may become very technical and distressing. Each system has its advocates and that suffices. A consideration of one involves the second, and each are obviously essential. There are two systems of heating, the direct and indirect, and most hospital buildings utilize both. The indirect having to do with ventilating primarily, it may be best to discuss first. Indirect means bringing heated or superheated air into the various portions of building. To accomplish this air intake pipes or flues are placed at suitable elevation on sunny side of building, and air carried over steam pipes or radiators in basement, thence by flues opening into rooms at two-thirds distance above floor line. This is accomplished by either the gravity or Plenum system. The Plenum system depends upon fans to force air. The ideal Plenum system provides two pipes to each room, one carrying heated air

and the other unheated air, and by means of thermostats and regulating dampers a proportionate quantity of each enters dependent upon requirements. Foul air is discharged by flues placed at floor line preferably immediately below incoming air flue. This foul air is discharged into garret or directly into open. While such a system may be desirable for crowded quarters, yet its cost of installation is great and cost of maintenance certainly great where continuous service is demanded. It has been condemned in more than one hospital because of anemic conditions developing among nurses, and for other reasons.

The gravity sometimes called natural-system depends upon the fact that heated air rises in a certain definite ratio to its temperature, the size, shape, course and height of flues. Foul air flues are essentially the same as in the Plenum system excepting of rather large area. Several factors are important in this system. It is a natural system, and we depend in summer on sun's rays to heat air in garret, so it is desirable to provide low roofed garret. I cannot emphasize too strongly the importance of ample roof ventilating flues. Further in this system a foul air flue encases each intake flue. In summer with no heat on, there is a tendency to draw pure air in while the heated air of colder weather has a tendency to force foul air out. Such a system has advantage of supplying an abundance of fresh air at practically no cost of installation and absolutely no cost of maintenance. In case either system be installed, test out each in and out of flue with an airometer. Thus far the indirect system has been considered from a ventilating standpoint. In colder weather it serves as a heating plant. These radiators are piped on independent lines from engine room, and having its own reducing valves, varying degrees of superheated air can be furnished as required.

The direct system means heating air directly in the rooms, and should only be used when capacity of indirect system is taxed. This is also piped independently, and reducing valves means later economy in fuel.

A heating plant presents great opportunity for economy. Let me first say that an ideal plant shows no steam vapors day or night. The modern hospital requires a certain amount of steam under high pressure for sterilizing and cooking. So a high pressure plant is desirable. And considering such a plant the installation of electrical generating machinery is desirable. Assume this, then let our boilers generate proper pressure and we generate our current; this steam then under lower pressure during colder weather is ample for our direct and indirect heating systems. Then let it pass through water-tank, thus providing an abundance of hot water for laundries and all other purposes at minimum expense, and finally as water of condensation it is ready to pass hot into boilers. Get such boilers with self-stoking firepots, and further economy in maintenance is assured.

In closing, let me emphasize that every cent saved in maintenance means better service for patient or patients, and the greater the number of patients the lower the per capita cost to that city, state or individual expense.

The next Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911.

A CONTRIBUTION TO THE ETIOLOGY OF ANTERIOR POLIOMYELITIS*

REPORT OF A CASE OF ACUTE ANTERIOR POLIOMYELITIS DEVELOPING DURING AN ATTACK OF CHOREA MINOR AND ACUTE ARTHRITIS, AND A CASE OF ANTERIOR POLIOMYELITIS CAUSED BY AN ACUTE GONORRHEAL INFECTION

THEOPHIL KLINGMANN, M. D.
Ann Arbor, Mich.

In reviewing the results of the more recent investigations, particularly the extensive work of Flexner, one must come to the conclusion that anterior poliomyelitis is not a single clinical and pathological entity, but that the symptom-complex is caused by definite anatomical lesions of the spinal cord and brain, the effects of several independent causes, the most important of which is the specific micro-organism causing epidemic poliomyelitis. Undoubtedly all other varieties are infectious but not specific. So it has been observed that poliomyelitis developed in the course of other acute infectious diseases, such as measles, scarlet fever, pertussis. Schueller and Trommer† have observed that it follows vaccination. Further, it has been demonstrated experimentally that inoculations of the typhoid bacillus, influenza bacillus and Loeffler's bacillus, with their respective toxines, will produce anatomical changes in the spinal cord very similar in location and character to those of anterior poliomyelitis. On the other hand is the fact that Schultze demonstrated the Jaeger-Weichselbaum diplococcus in the cerebro-spinal fluid of poliomyelitis important. Diplococci were found by Chapin, Concetti, Harbitz and others. The case of Raymond and Sicord,* where a polynuclear leucocytosis in the cloudy cerebro-spinal fluid was found, would indicate a markedly similar or an identical infectious process with that of epidemic cerebro-spinal meningitis. More conclusive was the very interesting case of Marinesco,† in which he found an accumulation of pneumococci in the artery sulco-commissuralis. In other cases the cytological examination of the cerebro-spinal fluid showed a lymphocytosis.

The bacteriological examinations of the spinal cord after death are usually negative, a fact which is only of significance in those cases that succumbed to the disease soon after its onset, as the specific organisms disappear early from the seat of the lesion in the spinal cord, which coincides with the short duration of the acute clinical manifestation. It becomes very apparent from the marked variations in the foregoing citation that they are not conclusive, that they are the exceptions, and are probably primarily cases of meningomyelitis represented in many of the sporadic cases of poliomyelitis. As an illustration of this statement the writer recalls a most unusual case with the following history: A patient, fourteen

*Presented at a special meeting of the Clinical Society of the University of Michigan, March 29, 1911.

† "Nervenclinic," 1907.

* Revue de Neurologique, 1902.

† Brissaud, Londe, Archard-Grenet, Revue de Neurologique, 1903.

years of age, complaining of weakness in the right lower extremity, with marked emaciation of the right buttock, thigh and leg.

The paternal grandmother died of meningitis at the age of twenty-one years. One paternal uncle suffered from arthritis deformans for many years, and eventually succumbed to pneumonia. The patient has a nervous temperament. He was well until thirteen years of age. In September, 1909, he became languid and mentally dull and was obliged to give up his school work. About two weeks later he developed choreiform movements of the face, upper extremities and occasionally of the right lower extremity. During this period he had indefinite pains in the shoulder joints, also in the arms and lower extremities. Three weeks after the onset of these symptoms he was suddenly taken with an attack of angina, nausea and vomiting, elevation of temperature (102° F.), severe pain in the lower part of the back and lower extremities, swelling and hyperemia of the right ankle and left knee joint, and on the second day complete paralysis of the right lower extremity and considerable weakness in the left. There was no disturbance of tactile or pain sense at any time during this illness. The patellar and Achilles tendon reflexes were absent. At the end of the second week of this acute illness the left lower extremity had improved considerably and there was some improvement in the right, but atrophy of the right leg was noticed at this time and a change in the electrical reactions (R. D. in the right gastrocnemius); while the left lower extremity improved, the right became more emaciated. At the end of six weeks the patient was able to be about, the left lower extremity normal, the right leg paralyzed. During the acute illness and for weeks after, the choreiform movements continued in the upper extremities but ceased in the lower. There was considerable fixation in the right ankle and left knee joint, but it resulted in complete recovery. A systolic murmur was heard most distinctly in the 3rd i. c. s. just to the left of the sternum. It was first noticed during the second week of the illness.

Examination. June 5, 1910. The patient's general appearance was fairly good. The choreiform movements continued in the face muscles, most marked on the right side, incessant choreiform movements of both arms and occasionally of the left thigh. The eyes were normal and there was no facial palsy, no tremor or involuntary movements of the tongue and no speech defect. The tonsils were enlarged and septic. There was no disturbance of general sensibility. Tactile and pain sense was normal everywhere. The thorax was symmetrically developed, no atrophy of the pectorals, the lungs and respiration free from any disturbance. The apex beat was seen in the 5th i. c. s., 3 cm. to the inner side of the left mammary line. The heart's action was regular, a blowing sound in the 3rd i. c. s., 1 cm. to the left of the sternum, occurred with the first heart sound. The spine was straight and there was no spinal tenderness. The musculature of the back was symmetrically developed and the tonicity was equal on both sides. The reflexes of the trunk were all active and normal. The musculature of the arms was small but equal on both sides; no atrophy of the arms. There were involuntary incoördinate movements of both arms, which were more or less constant. The muscular strength was about equal in both arms but somewhat diminished. The biceps and triceps jerks were equal and prompt. The right buttock was much smaller than the left. The glutei muscles of the right side were greatly atrophied and the electrical formula changed (R. D.). The right lower extremity was much smaller than the left; greatest atrophy was in the leg. The gastrocnemius was

markedly reduced in volume, and gives electrical reaction of degeneration. The pronei and anterior tibial muscles were atrophied. The electrical formula was not changed in the anterior group. Anterior flexion of the right foot was very weak. The patient was unable to stand on the toes of the right foot. The patellar tendon reflex was diminished; the Achilles reflex was lost; the plantar reflex was normal. The right leg felt cold to touch. The left lower extremity was normal.

Another interesting case is that of a young woman, age eighteen, who developed acute anterior poliomyelitis after an acute gonorrheal infection. The family history in this case was entirely negative.

As a child she was in good health; she had the ordinary diseases of childhood and always made a good recovery. Menstruation occurred at the age of thirteen, regular and without pain. A year ago she contracted gonorrhea. On the fourth or fifth day she noticed a vaginal discharge and some irritation when voiding urine. She was not treated at this time. On the tenth day she was suddenly taken with a severe chill, nausea and vomiting, headache, pain in the dorsal region and in the lower extremities. Micturition was very painful and frequent, with vesicle tenesmus and profuse purulent urethral discharge. Microscopical examination showed the gonococcus. The temperature reached 103°F. on the first day. The elevation of temperature continued for several days. On the third day she noticed some difficulty in moving the lower extremities, and the day following the right lower extremity was completely paralyzed and the left very weak. She was confined to bed two weeks. At the end of this time she could not stand or walk. There followed a gradual improvement, and she regained muscular strength in the left lower extremity; more slowly in the right. The right lower extremity gradually diminished in size, especially the leg. She had no numbness and could always feel light touch and pin-prick equally well in both lower extremities, but the right leg had been colder to touch than the left since her illness. She thinks that the atrophy has not increased for several months.

The examination gave the following result. She appears healthy and says she is well with the exception of the weakness in the right lower extremity, which is much smaller than the left. This is most noticeable in the leg. The right leg felt colder to touch than the left. She felt light touch and pin point equally well all over. Localizing sense was good in both lower extremities, and sense of position and motion was not disturbed. Thermal sense was not disturbed. Muscular strength was much diminished in flexion and extension of the right thigh and leg. She could not extend the right foot; flexion was difficult. The muscles of the right leg were soft, flabby and markedly atrophied, especially the posterior group. There was a difference in the circumference of one and one-half inches at corresponding points of the two legs. The electrical irritability was diminished in all of the muscles of the right leg, and there was reaction of degeneration in the posterior group. The right patellar tendon reflex was depressed; the right Achilles reflex was lost; the normal plantar reflex was present. Otherwise the examination was negative except the urine. In the sediment of the urine were found many red blood cells, leucocytes and numerous epithelial cells. There was considerable vaginal discharge in which the gonococcus was found.

Another interesting group of cases were five, varying between the ages of two and twelve, observed in one family. The first patient was taken suddenly with the usual initial symptoms; the paralysis of both

lower extremities followed on the third day. The second and third patient developed the disease a few days later. The initial symptoms were the same in these two cases as in the first. In both patients the lower extremities were involved and both made complete recoveries, while the first was permanently disabled. The other two cases were very mild and developed ten days later. All but one made complete recoveries. The case which developed first is permanently paralyzed in both lower extremities.

Two other cases were observed in neighboring families and occurred at same time. The disease was severe in both cases, with permanent complete disability of one lower extremity in both cases. Of unusual interest from an etiological standpoint is the case developing during an acute arthritis with endocarditis and preceded by chorea minor. Some investigators have been able to refer the etiology of chorea minor to acute infections in about seventy per cent. of their cases, but admit that this is not constant and very variable in character. When one compares the results of the more recent investigations, it is very evident that chorea minor may be caused by a variety of noxious agents to which the individual is particularly susceptible at the early age, when the reflex inhibitory centers of the motor apparatus are not fully developed. In this it is not unlike acute anterior poliomyelitis, both being a disturbance of the motor apparatus, although of an entirely different character. The close relationship between chorea minor and acute arthritis and endocarditis has long been recognized, but none of the numerous theories explain satisfactorily the association, although all of them are based upon the primary acute infection. While such instances where direct evidence of bacterial invasions or toxines are not the rule, they are nevertheless convincing. Clinically chorea minor and acute poliomyelitis are vastly different, and paralysis is no part of the symptom-complex of chorea, and in typical cases the motor power is not diminished, although there are cases in which the initial stage is accompanied by a paresis or pseudoparesis* which may conceal the characteristic symptoms of the disease, for which there is a pathologic-anatomical basis not unlike that of acute anterior poliomyelitis.

Epidemic poliomyelitis like epidemic meningitis is invariably a product of a specific micro-organism. However, we are forced to admit that identical clinical pictures, the result of the same anatomical changes, are produced by a variety of pathological conditions.

*_New York Medical Journal_, 1907. "Bruns Neurol. Clinic," 1905.

ON THE INJECTION OF DRUGS, ESPECIALLY SALVARSAN (EHRLICH) INTO THE LUMBAR MUSCLES

S. J. Meltzer, New York, states that the sacrospinal muscle is anatomically an exceptionally well-isolated large compact mass, densely packed with fine muscle bundles. For this reason it is an especially favorable site for the injection of drugs in solution or suspension, like salvarsan. The drug will remain in the muscle and not affect the adjacent tissues, which is an advantage. The absorption from this muscle is shown experimentally to be greater than from the gluteal muscles, and much better than from the subcutaneous tissue. Clinically salvarsan was found to exert a fairly rapid effect when injected into this muscle, in cases of secondary and tertiary syphilis. The Wassermann reaction was absent after this treatment. The author advocates the injection of salvarsan into this muscle in the treatment for syphilis on account of its efficiency and the absence of pain.—_Medical Record, March_ 25, 1911.

THE SHORT ANESTHETIC, THE LEAST AND THE SHORTEST OPERATION AS AN ADDED INDICATION FOR PROMPT AND EFFICIENT TREATMENT OF MASTOID, APPENDICEAL AND GALL BLADDER INFECTIONS*

BAYARD HOLMES, M. D.
Chicago, Ill.

The problem of medicine is the problem of treatment. This has been forgotten in the mad rush for research, for new operations, new instruments and new technique. The old adages of Hippocrates are neglected and the doctor has abandoned his place to the osteopaths, the Emanuelists and the Christian Scientists who still heal the sick.

The dominant influence on American medicine has for twenty-five years been a half understood Teutonic therapeutic nihilism. This has made the fundamental Hippocratic adage seem ridiculous. This adage is, "*It's the duty of the doctor to cure his patient safely, quickly, and pleasantly.*" The patient has been overlooked in the interest in the maneuver, in the pathology, or the technique.

Let us consider for a moment just what a doctor is and how he differs from a manual-tradesman. Almost any butcher can use the knife better than any surgeon, almost any harness-maker can use the needle better than any gynecologist, almost any net-maker can tie a knot quicker and better than any operator; yet none or all of these accomplishments make the doctor. The doctor has the great problem before him of curing his patient with as short a cut as possible, with as few stitches as possible, and with the least possible tying of knots.

I am led to consider the importance of a rapid short surgical procedure by the study of some stenoscopic photographs of operations recently foisted upon the book market. These pictures show too strong a tendency to demonstrate a mechanically perfect job, regardless of the interests of the patient. A surgical operation is not a mechanical but a therapeutic job. The surgeon is not dealing with passive but with active material. His objects are not physical, but biologic accomplishments. Therefore his methods are not those of the mechanic but those of the biologist.

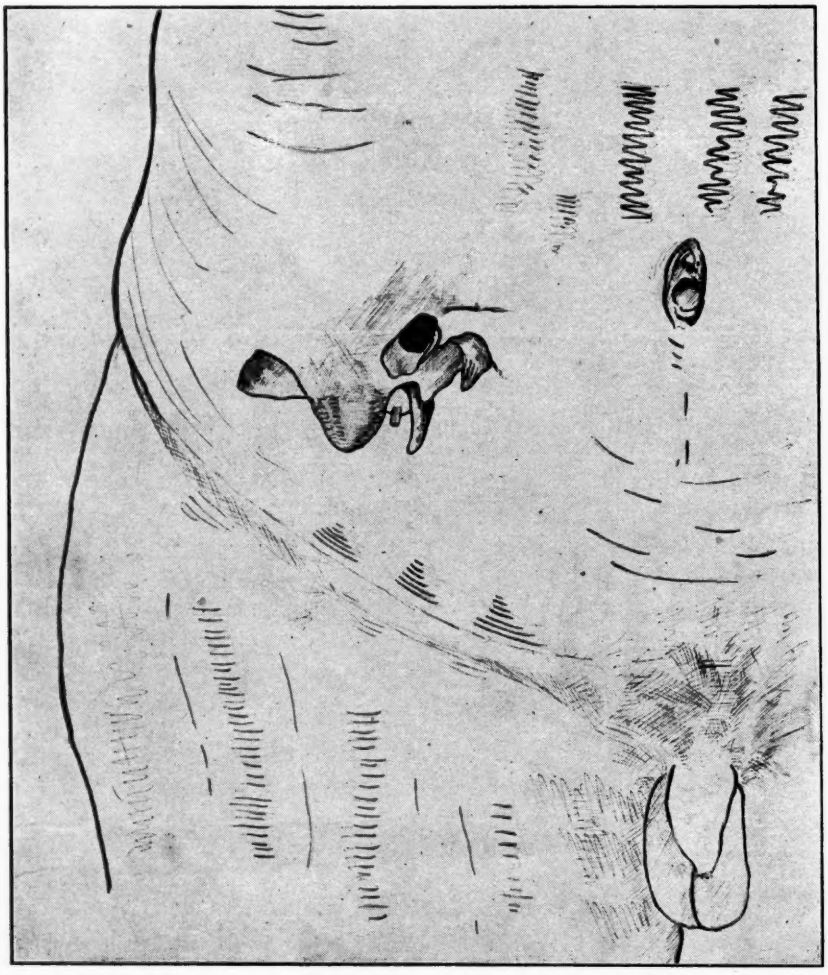
There is a certain lot of common therapeutic measures that must be in the hands of every physician unless he is in some manner limited entirely to internal medicine by his location or other circumstances. In the isolated community the doctor must do whatever comes before him. It is especially important that such a man have his ideals on the broad basis of his almost unlimited responsibility.

In the case of appendicitis, the battle between expectancy and operative interference has been pretty nearly settled. Now and then a belated straggler of the army of "starvation and enemas" lets off from his blunderbuss an abortive explosion, which is followed by a silence like that which surrounds the graves of thousands who have been martyrs to that delusion.

*Read before the Berrien County Medical Society, December 15, 1910.

Little attention has been given to the reasons for the positive manner in which the profession recommends appendisectomy, and the uniformity with which the enlightened public demands it as soon as the diagnosis can be made, and that too without any ifs or buts.

manipulation and traumatism a minimum, and the duration of the anesthetic and operation itself trifling. No intestines or omentum come into the light of day. (3) The duration of confinement to the hospital is trifling, and the loss from life and usefulness and the expense in the hospital are



SHOWING RELATIVE SIZE OF MASTOID AND APPENDICEAL REGIONS

It seems to me that this condition of professional and public sentiment has been brought about by the coincident development of several factors, namely: (1) The time of operation is fixed in the mind, both professional and lay, as the earliest possible moment. (2) The incision is short, the proportionately negligible. (4) There are no dangers from thrombosis, peritonitis, and other complications so imminent as they are when expectant or "starvation enema methods" prevail whether operation is eventually performed or not.

The majority of operators throughout

the world now perform appendisectomy in less than twenty minutes and keep the patient in bed less than two days, and in the hospital, or away from his regular duties, less than two weeks. All of these items indicate increased surgical efficiency, and each one of them extends the horizon of usefulness for the operation and brings a larger and larger number of patients from suffering and morbidity to happiness and health.

The same cannot be said for the removal of the suppurating antrum. The mastoid is not as easily cut as the soft abdominal wall. The border between danger and safety in the region of the facial nerve is measured in fractions of a millimeter. The majority of surgeons have paid superficial attention to the anatomy of the petrosa, and left it almost entirely to otologists, whose surgical efficiency does not generally keep pace with their anatomical and pathological information. Surgeons have not the otological knowledge and otologists have not the surgical efficiency. The patient therefore endures a two-hour puttering and indecisive operation from an otologist, or he has a surgeon who recklessly hammers and chisels away for the pus to get out, regardless of and unbeknownst to the extent of the infection or the proximity of the semi-circular canals, the facial nerve or the os stapes. The surgeon therefore for his lack of otologic knowledge, the otologist because of his lack of surgical efficiency, and the family doctor because of his poor success with either of these operators, practises an expectant treatment. This is greatly to the risk of the patient a distinct loss to scientific medicine and a blot on the honor of the profession, on the honor of which we all ultimately depend.

I can illustrate my point by placing over the area of the appendix a tracing of the naked petrosa. Inches on the abdomen are like fractions of a millimeter on the petrosa. The bone requires great mechanical force to cut it, and it is absolutely ridged to any sort of exploration or examination, even that of the probe.

It is unnecessary to point out the macroscopic maneuvers necessary to an appendisectory and the microscopic operations necessary to remove the infected wall of the antrum and the connecting air cells, reaching on the one hand to the tip of the mastoid, and on the other to the root of the zygoma.

The trifling though much studied congenital and acquired deviations of the appendix from the normal are discounted by the evolution of the mastoid antrum in different periods of life and the congenital variations in the course and location of the facial nerve. The results of long-continued and often unnoticed or unreported suppuration in the mastoid wholly overshadow in relative extent and complexity the well-recognized mischief done by chronic or recurring appendicitis.

The discerning physician who is in the place of the patient, as far as one person can ever put himself in another's place, cannot see why the suppurating mastoid antrum should not be treated just the same as the suppurating appendix. He calls the otologist, who does a peracentisis of the drum-head, if not already performed, and waits. He calls a surgeon, who digs into the mastoid antrum, and it continues to suppurate for months. During subsequent years it closes, heals and opens, or is operated upon repeatedly without the obliteration of the suppuration.

In the hands of an operator who is surgically efficient and at the same time intimate with the almost microscopic anatomy of the petrosa and with the embryologic variations, pathological deformities and clinical histories of every possible course of the disease, the infected antrum

can be as easily, quickly, promptly and safely cured as the infected appendix.

If we pass now to the gall bladder we find another state of affairs. The patients are usually old, and the disease is very chronic and leaves the heart as well as all the other tissues of the body much unstrung. Death after gall-bladder operations makes these cases unwelcome at the hospital.

The condition of the patient, however, is a fixed fact. The operator must conform to fate and avoid any risk to the patient. This he does by operating in stages. A cholecystotomy is first performed in five minutes of ether anesthetic, and then he allows a few weeks' drainage, during which the intoxication by the gall-bladder toxine will pass away.

Much study has been given the peculiar selective actions of lead and other poisons; clinically no more important manifestations of this selective action of toxins can be found than the toxin of cholecystitis for the heart muscles and nerves.

It is possible that my experience is exceptional, with an unusual number of patients with irregular tachycardia and heart incompetency, who have been marvelously, promptly and effectively cured by two or three months' drainage of a chronic cholecystitis. Histories of many such cases have been reported by me in the medical literature.

One of my recent cases was a man who had led a temperate and active outdoor life in the stock-yards. November last he began to complain of dyspnea. In March, April and May he had ascites and was frequently tapped. Cirrhosis of the liver was the diagnosis. In July two quarts of fluid were removed from the right pleural cavity, and the patient was feeling some better, but still confined to his room. Then with a diagnosis of cardiac incompetency from toxic gall-bladder disease, the operation under ether anesthesia was performed in ten minutes and the gall bladder drained. In a few weeks the pulse was normal and the man went back to work in the stock-yards.

A protracted operation would have been no more curative and would not have been survived.

CONCLUSION

(1) The interest in any operation is confined to the resulting cure.

(2) An anesthetic should be the shortest possible.

(3) The indications of wound treatment are (a) the arrest of hemorrhage, (b) the coaptation of necessary parts, (c) the minimum traumatism.

(4) The shorter the incision, the fewer stitches required for closure.

(5) The briefer the operation the wider the range of usefulness of the procedure.

SURGICAL SUGGESTIONS

"Non-bacterial" pyuria is very suspicious of tuberculosis.—*American Journal of Surgery.*

In nephrectomy for hypernophroma it is very important to remove the renal vein.—*American Journal of Surgery.*

The transperitoneal route, with retraction of the colon, affords the best exposure in radical nephrectomy for neoplasm.—*American Journal of Surgery.*

In case of urinary extravasation from rupture of the urethra, make no attempt to pass a catheter and waste no time in incising the edematous area, but perform perineal urethrotomy at once. —*American Journal of Surgery.*

In pyuria of prostatic origin—as shown by massage—if there has been no recent infection and, especially, if the pus is germ-free, prostatic calculi should be thought of. A skiagraph will determine their presence or absence.—*American Journal of Surgery.*

GENU VALGUM; WITH OBSERVATIONS ON CORRECTIVE OSTEOTOMY*

SCHUYLER COLFAX GRAVES, M. D.
Grand Rapids, Mich.

When the knee lies internal to a line drawn from the acetabulum to a point on the dorsum of the foot, midway between the malleoli, a condition of *genu valgum* or knock-knee is said to exist. It is only, however, to aggravated deviations from this rule that the term can be surgically, and hence properly applied, because moderate degrees of the deformity are normal to the human creature; that is to say, the center of the knee will normally be found on the inside of the line just mentioned. This is due to the fact that the axis of the thigh, on account of the length of the transverse pelvic diameter, does not coincide with that of the leg, but intersects it at an external obtuse angle of large degree, thus throwing the knee to the inner side of the acetabulo-malleolar line. This state of affairs is much more pronounced in the female than in the male, because of the greater pelvic width in the former, thus rendering still less coincident the femoral and crural axes. Such divergence in axial trend must be harmonized by some mechanic factor at the point of articular contact, and this correction is brought about by an elongation of the internal femoral condyle, which is from one-quarter to one-half inch longer than its fellow.

Statistics show that *genu valgum*, in relation to general surgical diseases and malformations, bears the ratio of about one to twenty-four, and to its congener, *genu varum* or bow-legs, of a little more than one to two, bow-legs being observed a trifle less than twice as frequently as knock-knee. The deformity may be unilateral, bilateral or mixed, being in the latter instance associated with bow-leg in the opposite member; and when bilateral it may present different degrees of variation in the two limbs.

Genu valgum has been noticed in the newborn; but it usually does not appear until the child commences to stand or to walk, and the cause is almost always rachitis. As stated by Young, "Rickets softens the bones, weakens the muscles and ligaments, and the superincumbent weight of the body accomplishes the rest." Other elements enter into the etiology of this condition, such as inflammations, with or without trauma, displacing fractures, paralyses, as the result of nutritional disturbances, the postural factor in occupations, etc., but the disease called rickets must always remain as the most frequent cause.

The pathology of *genu valgum* includes primary softening with secondary hardening of the osseous structures; linear hypertrophy of the internal condyle, together with atrophy of the external; stretching and weakening of the internal lateral ligament, with corresponding contraction and condensation of its fellow, externally; muscular changes on account of position or disease, and greater or less rotation and antero-posterior curvature both above and below the joint.

The symptoms, signs, and hence the

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diagnosis of this deformity are readily recognized, the naked-eye appearances being amply sufficient. The following are a few points bearing upon this part of the subject: the feet are more or less widely separated and everted when the limbs are extended and the knees are in contact; there is impossibility of approximating the feet when the limbs are in the position just described, together with excessive lateral joint-mobility, disappearance of the deformity on flexion of the legs upon the flexed thighs, supposed to be due to lack of antero-posterior thickening of the internal condyle, etc.

In the matter of prognosis it has been stated by some writers that time is corrective; but I doubt if any well-authenticated case of formerly pronounced and latterly "out-grown" *genu valgum* can be exhibited. Recovery by the operation of time, that is, by natural growth and action of better-toned muscles, except in the mildest types, is not to be expected. Deformity may not increase, certainly *will not* increase after the osseous eburnation that frequently follows rickets; but active mechanic interference must be instituted if we desire to do our patients any substantial good.

This brings us to the most important and, at the same time, the most interesting portion of this subject, the treatment. Naturally the matter falls under two heads, viz., first, non-operative; second, operative. Under the first we note such manipulative factors as massage and pressure, the latter exerting its force in a direction of course away from the central axis of the body while the extremities of the limb are fixed. This pressure can be applied either by the hand of the masseur or by properly constructed apparatus to be worn indefinitely, but taken off when the patient is in bed.

With this apparatus-treatment I have had no experience. Some surgeons with certain apparatus I know secure good results while the bones are of course yet soft and more or less elastic; but after the advent of sclerosis its employment is practically out of the question. It is at best slow, clumsy, burdensome and more or less torturing.

The way to correct a case of *genu valgum* to-day is to resort to either osteoclasis or osteotomy. By the former is meant the securing through any well-directed force of a simple fracture of the femur at or near the proper point. This method is inexact, and although it furnishes the great desideratum of securing correction without the necessity of compound fracturing, has not been extensively adopted by operators. I confess I am partial to osteotomy for the correction of curvatures of the long bones, and through my experience I have reason to be so.

Several excellent operations have been instituted within the past thirty years for the correction of *genu valgum* by osteotomy, although deliberate osteal sections for the same purpose were undertaken long ago, the first having been performed by Meyer, of Wurzburg, in 1851. The best of these operations are the following three: 1, Ogston's; 2, Macewen's; 3, MacCormac's.

The first consists in separating the internal condyle from the shaft of the bone by a vertical section, and after sliding the condyle up the diaphysis a sufficient distance, fastening it there. This procedure, however well it may correct the deformity, is never justifiable, in view of the fact that the great knee-joint is unnecessarily entered; for other operative methods fully as efficacious avoid, and very justly, the penetration of this important articulation. Hence the Ogston method will be discussed no further in this paper.

The remaining two operations, viz., the Macewen and the MacCormac, are the ones I propose considering. Although the former is the product of a mighty mind and

is recommended to-day by almost, if not quite, all of the text-books as superior to the MacCormac, it is in my opinion inferior to the latter, or rather to the modified MacCormac, as I shall proceed to show.

In the Macewen operation the incision is made vertically on the *inner* aspect of the thigh, and the bone divided "at a point where the two following lines meet; one drawn transversely, a finger's breadth above the external condyle, and a longitudinal one drawn one-half an inch in front of the abductor magnus tendon."

In the MacCormac operation the incision is made transversely on the *outer* aspect of the thigh at a point about two inches above the lower femoral epiphysis.

In an osteotomy for *genu valgum* on a boy of five that I performed several years ago, the MacCormac operation with some original modifications was chosen. These modifications were the following: 1, a change of incision from the transverse to the vertical direction; and, 2, an incomplete section of the bone, with the production of a "green stick" fracture in the portion undivided.

First: The MacCormac incision is transverse, and can only be accounted for on the ground of permitting better vision during the procedure. A surgeon, in the first place, should see with his fingers, and, in the second place, he should make incisions that disturb to the least possible extent, consistent with thorough work, the normal anatomic relations of the structures through which he needs must pass. A transverse incision in this operation divides the fibers of the vastus externus; a vertical one simply separates them. Union after transverse section of striated muscle is practically never followed by restoration of purely muscular continuity. Fibrous tissue takes the place of the destroyed muscle-cells, and a plane of connective tissue subsequently appears at the site of the former incision, thus damaging, in direct proportion to the amount of connective tissue present, the contractility and hence the usefulness of the muscle. It is needless to say that longitudinal separation of the muscle-fibers, when permissible, is better surgery than transverse section.

Second: In no text-book or operator's work have I seen advocated the securing of a "green-stick" fracture as a factor in the correction of *genu valgum* or varum. It is, of course, only possible in the young; but children form and will continue to form the great majority of cases for operation. "Greenstick" fracturing is impossible in the Macewen operation, because the *inner* portion of the femur is at once divided. In the MacCormac operation, however, the *outer* portion being the first to undergo division, the remainder, after gentle testing, may be subjected to pressure sufficient to fracture incompletely, and thus permit of deformity correction without total loss of osseous continuity. This can generally be effected, though not always, and, as can readily be seen, is a great advantage over complete bony section. I at once noticed the value of the MacCormac site in relation to this operative feature.

In the performance of these osteotomies, after placing the limb on a sand-bag, the desired section of the bone is readily accomplished by the free use of the mallet and chisel, and at the same time the correction is made and a plaster-cast applied over proper aseptic dressings, and allowed to remain for a month or more without disturbance.

When one limb is deformed to a greater degree than its fellow, if the variation be not pronounced, a compensatory tilting of the pelvis will overcome the moderate difference in the length of the limbs caused by correction; but when this variation is considerable, a sufficiently long, cylindric section of the femur in the limb that

shows the greater deformity must be removed in order to render the limbs of equal length.

To the Macewen operation I find the following objections:

1. It has to be performed in the neighborhood of a greater number of important structures than is necessary, viz.: The internal saphenous vein and nerve, the anastomotica magna artery, and to a certain extent the internal, upward prolongation of the synovial membrane lining the knee-joint, in regard to which Gray states: "On each side of the patella the synovial membrane extends beneath the aponeurosis of the vasti muscles, and more especially beneath that of the vastus internus." 2. The line of section is, for obvious reasons, too close to the epiphysis. 3. It necessitates the cutting of a wider expanse of bone than is desirable. 4. It precludes the possibility of an advantageous "green-stick" fracturing.

The following points of superiority attach to the modified operation of MacCormac:

1. The incision *separates* the muscular fasciculi, and does not appreciably *divide* them. (This condition of affairs I know obtains in the Macewen operation, and therefore the latter is not inferior to the former in this respect, but the innovation is an improvement on the old MacCormac.)

2. The only important structure to be avoided with the exception of the popliteal artery, which, by the way, should be borne in mind during *any* osteotomy for the remedy of this deformity, is the peroneal nerve lying in close proximity to the tendon of the biceps; but this cord, by virtue of the trend of the incision, is in very little danger.

3. The operation permits of partial, external bone-section with a maintenance of internal, osseous continuity.

In conclusion, allow me to recapitulate the modifications of the MacCormac operation that seem to possess merit:

1. The employment of the longitudinal instead of the transverse incision. 2. The aim to secure correction of the deformity without total loss of osseous continuity, through the agency of the so-called "green-stick" fracture.

The former modification is an exemplar of neater and hence better surgery, and the latter not only renders the MacCormac method the preferable one in the majority of instances, but also, by greater ease of manipulation and by greater certainty of good results, changes the dictum of many authorities as to treatment of cases in which such procedure is possible, viz., the children afflicted with this distressing deformity; for while heretofore it has seemed best to defer operations on the young and to try the effect of corrective apparatus, it can now be stated as a recognized fact that in these same boys and girls, who have all the time imaginable at their disposal, and in whom center all the possibilities associated with the training and molding of structures actively engaged in the processes of evolution, is found every indication for the performance of one of the most humane as well as one of the most brilliant operations in the realm of modern surgery.

GYNECOLOGICAL HINTS

A soft rubber or metal catheter is preferable to a glass one. I have known of two instances where the end of a glass catheter was broken off and remained in the bladder. In sterilizing a glass catheter by boiling, it may be so injured as to favor the occurrence of such an accident.

All late operations for perineal laceration, in order to be successful, must contain the following elements: 1, They must extend well up the posterior vaginal wall. 2, The denudation must go through the entire thickness of the mucosa. 3, The stitches must be inserted into the tissues so as to catch the muscle.

THE DIAGNOSIS OF INCIPIENT PULMONARY TUBERCULOSIS WITH SPECIAL REFERENCE TO THE USE OF TUBERCULIN*

T. D. GORDON, M. D.
Grand Rapids, Mich.

The diagnosis of pulmonary tuberculosis in the incipient stage is not an easy matter. Too large a majority of the cases are not recognized until they have gone considerably beyond this stage. This is partly the fault of the patient, who does not consult a physician early but relies perhaps on patent remedies to restore his failing health; partly due to the physician, who has not sufficiently perfected himself in this important part of his professional duty; and partly due to the fact that in many cases the symptoms and signs are so indefinite that the diagnosis is next to impossible with the means at our command.

The part played by heredity in the transmission of tuberculosis is not definitely settled. The most reasonable present view is as follows: Properties or characteristics acquired most recently by a race are the first to be lost. Mankind has gradually developed a resistance to the various infections to which recent generations have been subjected. The race has also gradually developed a higher mental capacity. When parents by inheritance, overwork, impure air, starvation, or disease lose a certain amount of their vitality and resistance, the organism which results from a union of their germ cells is by a process of starvation or intoxication not up to par in power of resistance against disease, or in ability to attain the high mental development which is demanded by our present complex social relations. This may show itself by a pathological susceptibility to tuberculosis and other diseases, or by any one of the disturbances of the higher brain centers—insanity, epilepsy or hysteria. To what extent this tendency is specific to the disease from which the parent suffered is not at present known, but it is encouraging to note that evidence is accumulating to show that in some cases, at least, even of tuberculosis, a child may inherit a certain immunity to the disease from which the mother suffered.

It is probable, however, that exposure to infection after birth is what occurs in the vast majority of cases, although placental infection has practically been proven, and there is very good evidence of an inherited tendency and even a specific susceptibility in many cases. Therefore, in taking a history we should, of course, inquire into the family history of the patient for general and specific causes of lost resistance, but we should be especially careful to learn of possible means of infection from persons with active disease.

In the previous medical history the occurrence of pneumonia, pleurisy, adenitis and influenza are usually sufficiently well investigated, but not enough stress is placed upon prolonged hoarseness, catarrhal symptoms in the throat—which seems to reach as low as the diaphragm in some patients, pain in the chest and shoulders, and gastric disturbances. Reliable information is often hard to obtain, for

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many of the worst cases of tuberculosis of the larynx, with the peculiar hoarseness which has lasted for months, will insist that the hoarseness is due to a cold which they have just contracted. Some patients who cough up large amounts of sputum, loaded with tubercle bacilli, will maintain rigidly that they have merely a catarrh of the nose and throat; their pain in the chest is "rheumatism," they get short of breath when walking because they are not used to walking, and their explanations are so plausible that they are given some Dobell's solution as a gargle for their "catarrh" and some proprietary antiferment tablets for their "dyspepsia," while they drift along, kissing their children, borrowing their neighbors' pipes, and spitting everywhere.

Of the symptoms in the incipient stage, general ill feeling, inability to gain weight, indigestion, with a feeling of weight in the epigastrium after eating, more or less definite dull pains in the chest, with or without cough and hoarseness, are all suggestive. An attack of hemoptysis or an acute pleurisy will make the diagnosis almost certain.

Previous to the physical examination, the patient's temperature and pulse should be taken, preferably before and after exercise, and the patient should be given a thermometer and shown how to take and record his temperature and pulse three or four times a day, over a rather extended period. Most patients will keep a much more accurate record than we would expect, especially if its importance is sufficiently impressed upon them. An abnormal acceleration of the pulse after exertion in the absence of any heart condition is an important early sign.

A patient cannot be properly examined in five or ten minutes through a small triangular opening in the clothing, which lays bare the manubrium and the inner ends of the clavicles, as is too often attempted by the busy doctor, especially with a modest patient. Very little can be learned in this way about the comparative signs on the two sides of the chest, and the breath sounds are obscured by the rubbing of the clothing upon the skin and upon the hands and stethoscope. The patient's chest should be completely bared, for even under the most favorable conditions little enough will be ascertained by the physical examination of incipient cases. In a cold room the involuntary contractions of the muscles and the friction of the stethoscope upon the roughened skin will produce sounds easily interpreted as rales or roughened breathing.

In the preliminary inspection of the patient one should note the general build of the patient and the shape of the thorax, remembering, however, that a patient may have tuberculosis without showing any asymmetry of the chest or much diminished expansion. The mouth and throat should be examined to ascertain the condition of the teeth, the tonsils, and, if possible, the larynx. Woodcock calls attention to a pearly, bluish-white tint to the soft palate in tubercular cases. A popular view among some of the older practitioners is that there is an abnormal growth of hair in tuberculosis. This actually occurs in children and young adults, in whom there is sometimes seen a growth of downy hair covering nearly all of the body. The clubbing of the fingers and curving of the nails do not occur frequently in early cases. They are due to nutritional and circulatory disturbances and occur in later cases and more often in women. A careful search should be made for enlarged lymphatic glands, especially in the cervical group, but also in the axillæ and the supra-clavicular fossæ. Recently mentioned signs of as yet unproven value are an atrophy of the skin over an affected area, hyperalgesia and an increase in temperature on the affected side when obtained by burying the thermometer in a fold of the skin.

By palpation a better idea may be obtained of the relative expansion on the two sides. Vocal fremitus does not show much before some consolidation has occurred, and we should not be led astray by the normal difference due to a closer opposition of the right apex to the trachea.

Percussion of the apices should be done very carefully, outlining a band of resonance, running backwards across each supraclavicular fossa. A narrowing of this band is one of the early objective signs in beginning processes.

By auscultation we find the most valuable signs in early cases. The chest should be gone over very slowly and deliberately, listening carefully in the regions above and below the clavicles, at the lower borders of the lungs in front, the whole area above and between the scapulæ and the bases behind. It is often advisable to begin the examination of the chest by listening with the stethoscope, for in some cases the deep breaths which the patient is asked to take during inspection and palpation may dispel some of the fine rales which were present at the beginning of the examination. A prolongation of the expiratory sound with a higher pitch than is heard at the corresponding point on the opposite side, together with a granular or rude character to the breath sounds, which condition seems to precede the occurrence of rales in most cases, are the most important signs. Rales may appear after coughing, which could not be heard before. The whispered voice gives valuable signs of beginning consolidation. Miller, Pelton and others lay great stress on the cough sound. In doubtful cases the patient should be gone over carefully at varying intervals.

In only about thirty-five per cent. of incipient cases are bacilli found in the sputum; therefore, negative findings cannot rule out tuberculosis. The use of one of the antiform preparations to concentrate the bacilli is of value in cases in which enough material can be obtained. At present a few men are advocating examinations of the stools and stomach contents for the bacilli, especially in children and those who expectorate very little. The differential examination of a blood smear may in the future be of benefit, as Widal lays stress on a relative lymphocytosis and Arneth differentiates the granules in the nuclei of the leucocytes.

The opsonic index and the agglutination tests require technic and facilities not possessed by most laboratories, although serum diagnosis promises to give even more reliable results than the tuberculin tests.

The X-ray gives valuable information as to the location and extent of the lesion, and is certainly a most dependable method of diagnosis when in the hands of a skilled workman.

After this hasty discussion of the other means of diagnosis, we will consider a little more in detail the use of tuberculin. The principle governing all tuberculin tests is the same, being closely allied to that of sensitization of the body to a foreign substance. A patient with tuberculosis develops an enzyme which will split up the bacilli and their products. This enzyme is stored up, probably as a pro-enzyme, in varying quantities, depending upon the extent of the infection and the resistance of the patient. If such a person is injected with a small amount of dead tubercle bacilli or with the filtrate from glycerine bouillon, in which tubercle bacilli have grown (Koch's old tuberculin), the enzyme is liberated and the bacilli or the tuberculin are split up into a non-toxic and a toxic portion. If enough of this material is injected and enough enzyme is present, the toxin is liberated in sufficient quantities to produce a definite intoxication of the patient. This enzyme is stored up in nearly all of the body cells, so the local application of tuberculin will produce redness and infiltration

at the point of application. These proenzymes will remain in the body for an indefinite period, as is shown by the lasting immunity to various infectious diseases. Therefore, a healed lesion or a latent one will oftentimes give as marked a reaction as an active case of tuberculosis. While this fact is of great value in protecting against subsequent infection, it detracts markedly from the value of the tuberculin tests.

The subcutaneous administration of tuberculin in amounts from one-tenth to ten milligrams is at present generally considered to be the most valuable of the tuberculin tests. The reaction which follows may be divided into three phases. (1). A local inflammatory reaction at the point of injection, with redness, induration and tenderness. (2). Constitutional disturbances, with ill feeling, pains in the head, back and legs, nausea, rise of temperature and an increase in pulse rate. (3). The focal reaction at the point of infection, as shown by redness and increased tenderness of tubercular glands, or by increased cough and rales if the infection is in the lung.

This reaction is of value when carefully carried out, but has the following objection:

1. It cannot be given to a patient who has afternoon temperature, as the rise in temperature following an injection is one of the most accurate objective signs of a reaction.

2. It is contraindicated (on account of the focal reaction) in patients with meningeal symptoms, heart or kidney disease, a history of recent hemaptysis, epilepsy or Addison's Disease.

3. The patient must be under control for several days, preferably in a hospital, must have the temperature and pulse taken for two or three days preceding an injection, and as long a time following it.

4. The test frequently has to be repeated or a larger dose given, in order to be sure that a reaction is either positive or negative.

5. The focal reaction, which is one of the most valuable signs when obtained, is not made out in very many of the cases.

The reaction to the local application of tuberculin is utilized in the ophthalmo, the cutaneous and the percutaneous tests. The eye reaction is at present condemned by most physicians on account of the many accidents resulting from its use. The percutaneous (or Moro test) seems to have no advantages over the cutaneous reaction.

The skin test or Von Pirquet reaction is in many respects the most satisfactory test, as it can be used with ease in nearly all cases, is absolutely harmless, is very simple, and interferes in no way with the patient's freedom. One or two drops of old tuberculin, usually diluted to a strength of twenty-five to fifty per cent., is placed on a clean area on the interior surface of the forearm. Through these drops the skin is scratched by means of a small scalpel, a needle, or better, the platinum chisel which has been devised by Von Pirquet. When a reaction is positive a hyperemic area begins to surround the abrasion in from ten to twenty-four hours and continues for from three to ten days. The width of the papule may be one-fourth of an inch or it may be surrounded by a reddened zone sometimes an inch in diameter. This papule is raised and somewhat indurated. Generally no constitutional nor focal reaction occurs.

The main objection to this test has been that, while it may give a positive reaction in cases with actual disease, it also gives many positive reactions in apparently normal individuals. This is generally believed to be due to the fact that many adults have been infected with tuberculosis, but the lesions have entirely healed or remain latent. Only a small percent. of apparently healthy children under six months react, but from then to fifteen or

sixteen years of age there is a gradual increase in the number of reactions.

During last year* we reported cutaneous tests upon 280 students and 242 hospital patients, using dilutions of one per cent., five per cent. and twenty-five per cent., hoping to find a dilution to which only persons with active lesions would respond. We were in a measure unsuccessful, but concluded that the application of graded strength gave a much lower number of positive reactions in clinically non-tuberculous individuals without excluding a proportionate number of those with clinical signs.

Below we give three of our tables. Table 1 shows the number of positive reactions in 242 hospital cases.

Table II gives the results of the cutaneous test on 288 students, about ten per cent. of whom gave a suspicious history or had suspicious signs of tuberculosis. Eighteen per cent. of the freshmen gave positive reactions and forty-four per cent. of the seniors. Age probably plays only a small part in this difference. The lessened resistance on account of the confinement of college work, together with exposure to patients during the last two years, may have much to do with it. The break in the gradual rise occurring between the sophomore and junior years may be due partly to the fact that the sophomore class was not given the test until late in the year, while the members of the junior class were given the test early in the year.

TABLE I—CUTANEOUS REACTION

CLINICALLY	No. CASES	POSITIVE	% POS.	NEG.	D'BTF'L
Non-tuberculous	133	21	15.8	102	10
Suspicious	42	18	43	21	3
Early and Moderately Advanced	45	41	91	1	3
Advanced	22	14	64	5	3
Cases with Bacilli	30	27	90	2	1

Of 133 non-tuberculous patients 15 and 8-10 per cent. gave positive reactions. This is a lower percentage than is usually obtained in adults, partly due to the fact that our strongest dilution (twenty-five per cent.) is weaker than that used by many workers, some of whom use full strength tuberculin. We had, also, a rather large class of doubtful cases in which the diameter of the papule was less than five millimeters. Ninety-one per cent. of the early and moderately advanced cases were positive, as were ninety per cent. of the cases with bacilli. Only sixty-four per cent. of the advanced cases were positive, as is usually noticed.

In eighty-four of our hospital cases a subcutaneous injection was given, using as a guide to the size of the dose the intensity of the cutaneous reaction. A patient who failed to react to the cutaneous test was given an injection of either five or ten milligrams of tuberculin. Patients who gave moderate cutaneous reactions were given two or three mgs., while those who gave violent skin reactions were given one mg. subcutaneously. Whenever possible a reaction which was in the least doubtful was repeated. Graphic charts of the patient's temperature and pulse were kept for twenty-four hours preceding and forty-eight hours following the injection. The reaction was considered positive if the temperature rose more than one degree

*Gordon, T. D.: "The Relation of the Cutaneous to the Subcutaneous Tuberculin Test." "Transactions of the National Association for the Study and Prevention of Tuberculosis," Vol. VI, page 217, and "Physician and Surgeon," August, 1910.

above the patient's normal temperature for that time of the day, and in most cases the rise in temperature was accompanied by increased pulse rate and various constitutional symptoms. Focal signs were watched for, but were present in only a small number of our cases.

and shows fairly well the cases that would react to the subcutaneous test. In view of the fact that a certain proportion of apparently healthy adults react to all the tests and that some of the worst cases fail to react, we should not allow any test of this sort to interfere with a careful history and

TABLE II—CUTANEOUS REACTION—STUDENTS

CLASS	FRESH.	SOPH.	JUNIOR	SENIOR	TOTAL
Number	50	108	78	52	288
Average age	21	23	24	26	
Negative	40	70	50	24	184
Slight or Doubtful	1	4	2	5	12
Positive to 25% only	2	15	10	11	38
Positive to 5% and 25%	4	15	14	11	44
Positive to 1%, 5% and 25%	3	8	2	1	14
Total Positive	9	38	26	23	96
Per Cent. Positive	18%	35%	33⅓%	44%	33⅓%

Of forty-one patients giving negative cutaneous tests only one reacted to a subcutaneous injection, while of forty positive cases to the skin reaction thirty-six reacted to a subcutaneous injection; four were doubtful, due partly to the fact that it was not possible to give subsequent injections. The patients who gave definite cutaneous reactions almost invariably proved very sensitive to subcutaneous injections. As an indication of sensitiveness to tuberculin, I believe that the use of graded strength of tuberculin applied by the technic of Von Pirquet is as sensitive as any other test,

examination of every case in which tuberculosis is suspected.

In conclusion, I would say, there is no royal road to the diagnosis of tuberculosis, and any case in which there is the least suspicion of tuberculosis should be examined carefully and repeatedly.

Serum diagnosis and the X-ray are valuable, but can be used in very few of our cases.

Tuberculin alone cannot give us a diagnosis. A patient who fails to react to a series of tests carefully made with a good fresh preparation very probably does not

TABLE III—CASES GIVEN BOTH CUTANEOUS AND SUBCUTANEOUS TESTS

CUTANEOUS		SUBCUTANEOUS		
RESULT	No. CASES	POSITIVE	NEGATIVE	DOUBTFUL
Negative	41	1	40	—
Slight or Doubtful	3	1	1	1
25% Positive	—	—	—	—
25% and 5% Positive	18	17	—	1
25%, 5% and 1% Positive	22	19	—	3
Total Positive	40	36	—	4

have incipient tuberculosis. A patient who gives a reaction may have a latent or healed lesion, or the lesion which caused the reaction may be in a part of the body far remote from the disease which is causing the signs and symptoms of the patient's present trouble.

The skin reaction has many advantages over the eye test, and has some advantages over the subcutaneous test.

The use of tuberculin is a fairly easy and useful confirmatory means of diagnosis.

234 Wonderly Building.

SURGICAL SUGGESTIONS

If a hernia suddenly becomes irreducible, advise prompt operation; if the patient vomits, even once, insist upon it.—*American Journal of Surgery.*

Don't jump to the conclusion that a benign stricture of the rectum is syphilitic. Gonorrheal proctitis causes dense cicatricial infiltration.—*American Journal of Surgery.*

Smearing vaseline over the buttocks in a rectal examination, scratching the furniture with basins, spattering the carpet with plaster of Paris, are some of the "little things" that will lead some patients to consult thereafter surgeons with more neatness, if less skill.—*American Journal of Surgery.*

In any case in which catheterization is required, however careful the nurse or physician, administer hexamethylenamine as a prophylactic against cystitis.—*American Journal of Surgery.*

There is no convincing argument in favor of amputating normal omentum found in a hernia. There are sound arguments against it.—*American Journal of Surgery.*

When performing lateral anastomosis after intestinal resection, make the opening reasonably near the closed ends. Long blind pouches may give trouble.—*American Journal of Surgery.*

If a urethral discharge persists in spite of active treatment, especially if it be by silver salts, discontinue treatment for a while.—*American Journal of Surgery.*

In suitable cases excision of the tract of a fistula in ano may result in a speedy cure. Persistence of the fistula may follow the operation, but so may it follow the slow healing procedure of free incision.—*American Journal of Surgery.*

The surgeon who adopts the rule not to tie off the neck of an inguinal hernia sac until he has dissected from it all doubtful fatty masses will save himself the embarrassment of occasionally injuring the bladder.—*American Journal of Surgery.*

A sharp pain felt at the outer end of the groin upon sudden motion of the thigh, as in starting forward from a crouching position in a foot race, suggests fracture of the anterior spine of the ilium. This occurs usually in adolescents.—*American Journal of Surgery.*

As part of a hernioplasty it is always worth while to reduce by sutures the hiatus in the transversalis fascia whenever this can be conveniently done.—*American Journal of Surgery.*

GYNECOLOGICAL HINTS

(*International Journal of Surgery.*)

If a cathartic is given to a woman the night before an operation on her perineum or cervix, she is very apt to have an evacuation from her bowels during its performance. It is better to give the cathartic forty-eight hours before the expected operation or an enema on the morning it is done.

In washing the vagina and external genitals, cotton or gauze should be used, rather than a brush. A brush is apt to abrade the parts.

After operating on the perineum it is bad practice to apply a perineal pad, for by so doing discharges are transferred from the anus and the wound is apt to become infected. You will have better results when no dressing is used.

The rectum should be thoroughly dilated after all operations on the perineum, so that the bowels can be easily moved and gas allowed to escape.

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PUBLICATION COMMITTEE:
A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
R. H. SPENCER, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek.
(Ex officio)

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A. M., M. D., Editor, 24 West Main Street, Battle Creek, Michigan. The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

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JUNE

EDITORIAL

"STARS"

Dr. Wilfrid Haughey,
Secretary Michigan State Medical Society,
Battle Creek, Michigan.

DEAR DOCTOR.—I do not approve of your method of black-listing members. My dues were paid promptly upon presentation of bill. If the rest of the members of the State Society are like me, some other plan will be adopted at the next meeting.

Very truly yours,

. . . . . .

This is one of the three letters received protesting against the seven hundred odd stars which appeared in the list of members in the last number of the JOURNAL. We have heard many favorable comments: "Keep right on," "This is strictly business."

A similar method has been used in Michigan for many years. See the "Transactions" for 1891 (twenty years ago). page 345, in the report of the Secretary:

"I regret to be obliged to report, according to our By- laws, that four members are five years in arrears for dues, have been notified, and have failed to respond, and will therefore be dropped from membership for non-payment of dues. They are:" (Here follow the names.)

The collection of dues is a disagreeable job at best, and cannot be done to satisfy every one. Many members and many counties take a laudable pride in paying their dues during the first month of the new year, not waiting for a bill. Would that all were alike in this respect.

In handling the records of over three thousand doctors in our card index, transcribing the names of those who were at the time in good standing, and placing these names in type for printing, there are many chances for error. A few errors crept in—a few names had stars which should not, and one or two names did not have stars which should. These were mistakes in proof-reading and correcting, were discovered, and the interested members notified in the same mail with the JOURNAL.

In some instances, notably that of Wayne County, the Secretary forwards his report the first of each month, in which event the list is correct only up to April 1st. Such County Secretaries should not be censured.

On account either of payment before May 1st, as many of them did, or before the time limit set by individual letters sent to each delinquent member, a large number of those whose names were starred last month have paid for the current year, and on another page we are printing a list of those names which have had the stars removed.

A goodly number of new and reinstated members will be found in the accompanying list.

In regard to those who have not yet paid for the present year, we have followed the specific directions of the House of Delegates, and before the mailing of this number of the JOURNAL their names were removed from the mailing list and reported to the American Medical Association.

Such members may regain their membership and good standing by simply paying their dues.

A WORD OF PRAISE

THE State Secretary wishes to take this opportunity to speak a few words of praise. Several of our County Societies have made a remarkable showing this year both in regard to new members and organization, and in regard to the scientific work they are doing.

Two counties have added an enormous percentage of new members to their rolls,—Genesee and Wayne. Genesee, under President Noah Bates, Secretary C. P. Clark and Treasurer F. B. Miner, has increased its paid-up membership from 42 for 1910 to 70 for 1911. Not a member has been lost for nonpayment of dues. Only six more members will entitle the county to two delegates, and we confidently expect them. Genesee holds two meetings a month.

Wayne County in point of numbers has surpassed this record under President Angus McLean and Secretary R. C. Jamieson.

In September last, 307 members had paid their 1910 dues. Before the end of the year this had been increased to 380. This year 440 have paid for 1911, and 98 new members have been added to the list since September. Such a record is an enviable one.

Kent County has increased its membership from 128 last year to 140 this year, leaving only 20 eligible doctors in the county not members. The interest and enthusiasm of their meetings is constantly improving.

Since the Saginaw meeting of the State Society in 1907, the membership of the Saginaw County Medical Society has dropped off until they had about half the number of four years ago. Since the election of officers this year, however, there has been a change. Every member but one has paid dues for the year 1911, and eight have been reinstated.

Kalamazoo Academy of Medicine has adopted the plan of two meetings a month, and issues a bi-monthly Bulletin. The interest in meetings has easily doubled, and the Society has grown—116 members.

Muskegon meets twice a month, has not lost a member, and has an enviable reputation both as to meetings and scientific interest and as to business methods. Their method of arranging programs, so that every member of the Society furnishes a part of the program each year, is excellent.

Bay has an excellent Bulletin and well-attended, enthusiastic meetings, with collections prompt.

Tuscola, through its work for the Board of Supervisors, has cemented its members so closely together that one could not be driven out of the Society. The dividends paid to each member of the Society after meeting all running expenses, dues, etc., is a surprise,—$50 to $80 a year.

In this connection it seems appropriate to remark that frequent meetings are conducive to good, live societies, to progressive scientific work, and to a warm brotherly interest.

While giving especial credit to a few societies, we would like to mention them all, but we must at least list those in which every member has paid his dues: Benzie, Charlevoix, Cheboygan, Clinton, Genesee, Ionia, Isabella, Lapeer, Mason, Menominee, Midland, Monroe, Muskegon-Oceana, Oakland, Ontonagon, Presque Isle, Tuscola.

The following have only one member unpaid: Cass, Chippewa, Eaton, Gogebic, Huron, Livingston, Mecosta, Montcalm, Newaygo, Saginaw, Schoolcraft, and Tri-County.

Several counties have only two members still unpaid: Bay, Barry, Branch, Emmett, Manistee, St. Joseph.

LOS ANGELES MEETING

THE American Medical Association will meet in Los Angeles June 27–30, 1911. Special trains to take Eastern doctors to the coast will be made up from Chicago over the various roads. The Santa Fe will have an excellent special train leaving Dearborn Station, Chicago, at 8 P. M., June 21. This train gives 28 hours at the Grand Canyon of Arizona and arrives at Los Angeles at 7 A. M. June 26.

The Burlington special train will leave Chicago at 11 P. M. June 21, making stop-overs at Denver, Colorado Springs, Salt Lake City, Rainbow and Arrowhead Canyons of Nevada, arriving at Los Angeles at noon June 26, both trains being in plenty of time for the first session of the Society. A round trip rate of $62.50 is offered from Chicago to Los Angeles, over either of the roads.

The Pullman rates from Chicago to Los Angeles are $7.00 for tourist sleeper and $13.00 for standard Pullman; or $16.00 for the standard Pullman, double lower berth, including the Grand Canyon side trip.

If one wishes, he may go by one route and return by the other at no extra charge, but returning by way of Portland will cost $15.00 extra. The rates from points in Michigan to the Chicago terminal will be one and one-half fares on the Michigan Passenger Association lines. The Grand Trunk Railroad will offer single fare for the round trip to Chicago.

It would be well for all of our members who contemplate taking this trip to make their reservations early. (See our advertising pages for addresses.)

THE LEGISLATURE

THE last session of the Legislature finally passed a very satisfactory Certified Milk Bill, copies of which may be obtained by addressing the Secretary of State or Dr. M. L. Holm, of Lansing, Michigan. This Bill provides for the production of Certified Milk, under the direction of a Medical Milk Commission, and is a modification of the so-called New Jersey law.

The Medical Bill proposed by the State Medical Society was not reported out of Committee.

The bill prohibiting certain classes of immoral advertising was passed, after striking out reference to "Contagious Blood Diseases."

A bill was passed requiring doctors to report occupational diseases. With the exception that these reports shall be made through the health authorities, the bill is as published in the JOURNAL for April, page 184.

The Chiropractic Bill was amended so that preliminary education equivalent to that necessary to enter the Medical Department of the University of Michigan was required. The bill was then further amended by striking out all but the enacting clause—a polite way of killing it.

IN MEMORIAM

Alexander Arthur McLarty, M. D., Detroit College of Medicine, 1893, of Manistee, a member of the Manistee County Medical Society and Michigan State Medical Society, supreme examiner of the Modern Romans, acting assistant surgeon U. S. P. H. and M. H. Service, died at St. Mary's Hospital, Rochester, Minn., March 27, after an operation for carcinoma of the stomach, aged forty-three.

Samuel Stuart Hackwell, of Blaney, aged 33, a graduate of the Detroit College of Medicine of 1905, a member of the Schoolcraft County and Michigan State Medical Society, died May 1st, while undergoing an operation for brain tumor.

COUNTY SOCIETY NEWS

BAY

April 10 nineteen members were present.

A communication from the mayor asked the Society to suggest three names for appointment on the Board of Health, of which number he would appoint one. An informal ballot resulted in the recommendation of Drs. Hammond, Goodwin and Ruggles.

Dr. A. W. Herrick reported several cases of good results with the use of large doses of quinine in pneumonia.

The paper of the evening was then read by Dr. S. E. Gustin, of Bay City.

The Disease—Inebriety.

[Abstract]

Inebriety is a diseased condition of the nervous system and will result after long persistence in any kind of drinking. The nerve cells, accustomed to the presence of alcohol, cannot perform their functions without it. Inebriety must not be confounded with its symptom, drunkenness.

Inebriety is not hereditary unless the mother is a hard drinker during pregnancy. The hereditary taint is transmitted, but 20 per cent of alcoholic inebriates are children of non-drinking parents.

Inebriety is a brain lesion causing a craving for liquors or their effects; while drunkenness is the effect produced by satisfying the craving. Thirst is not necessary. Many drinkers hate the drink, but want the effects.

Anything causing loss of nervous and mental control will produce inebriety. Alcohol is the American opium and cannabis indica the Asiatic intoxicants. Alcohol causes (1) vascular relaxation with exhilaration of the senses; (2) disturbances in and exaggeration of the faculties; (3) unconsciousness. In the latter condition the inebriate is often arrested and receives the doubtful justice of the police court.

A quart of whiskey at one drink has produced unconsciousness in three minutes and death in seven hours.

One to three quarts of whiskey is a common daily amount for an ordinary drunkard.

Two to eight gallons of beer has been consumed in a day with impunity. Wine and beer inebriates are numerous. Cider causes much drunkenness. Concentrated whiskey damages the stomach, liver and kidneys, while its dilution with hot water causes a more rapid and lasting intoxication. Idiosyncrasies cause great variations in the symptoms.

No authentic case of spontaneous combustion of an alcohol soaked body has been reported. The drunkard does not require whiskey or brandy as a stimulant after a debauch. No death has been reported after immediate withdrawal of alcohol in thousands of cases. Delirium Tremens is not caused by sudden withdrawal of alcohol, but is a nervous explosion resulting from alcoholic poisoning of the nervous system:

Alcohol is not a food as shown by the following:

FOOD

A certain quantity always produces the same effect.

Habitual use never produces a craving.

Sudden withdrawal after habitual use never causes deranged nervous system.

Causes no reaction.

Oxidized slowly in body.

Followed by increased excretion of carbon dioxide.

Followed by rise in body temperature.

Strengthens muscles.

Makes brain more active and accurate.

ALCOHOL

Continued use requires more to produce same effect.

Habitual use always produces a craving.

Sudden withdrawal always produces deranged nervous system.

Always causes reaction.

Oxidized rapidly.

Followed by decrease in body temperature.

Followed by fall in temperature.

Weakens muscles.

Makes brain less active and accurate.

Alcohol is a cellular poison. On reaching the stomach it is quickly absorbed and goes to the liver, acting first as an irritant, then as a sedative. Wine and beer produce fatty degeneration; brandy, whiskey and gin, cirrhosis.

Eighty per cent of moderate drinkers who have pneumonia die during the first week. Surgeons expect 25 per cent better results in non-drinkers.

One-tenth of all deaths in this country are directly or indirectly caused by its poisonous effects. 88 per cent of all ethyl alcohol is swallowed by man. 1-3 of 140,000 insane in public and private asylums are there as a result of alcohol. The disease seems to be here to stay.

Treatment—Inebriety must be treated as any other disease—the cause must be removed.

The regular drinker is more amenable to treatment than the periodic. There are three classes of regular drinkers. (1) those who have unconsciously continued until large amounts are necessary to produce effects and realize their condition; (2) those born with defective physique and unbalanced nervous system; (3) those who drink as a pure dissipation. The first class can be cured to stay, but the other two cannot.

The periodic drinker with a mental defect cannot expect a cure. If the outbreak is due to nerve explosion, environment or lack of character much may be expected from treatment.

The first and most important step is to cleanse the system from waste products, by causing the bowel, skin and kidneys to do many times their ordinary duties.

The stimulant should be withdrawn as rapidly as possible, regardless of the amount taken. All alcohol left in the blood must be eliminated and neutralized, craving overcome and a complete dislike produced. Emetics, diaphoretics, diuretics, purgatives and sedatives are used.

The paper was discussed by Drs. Baker, W. R. Ballard, Hauxhurst, Ruggles, Hoyt, W. W. Williams, Bradley, Stewart and J. W. Gustin.

April 24

The paper of the evening was read by Dr. A. F. Stone.

The Macroscopic Aspects of the Urine.

One will be surprised at the amount which can be learned from a routine macroscopic examination of the urine. The first drawn in the morning should be received in two glass tubes holding three or four ounces and labeled "1 and 2." The urine should be clear when first drawn. A red precipitate settling rapidly is due to urates. Phosphates produce a turbidity which disappears on adding acetic acid. Many drugs color the urine and must be borne in mind. Bile produces a color from greenish yellow to brown. Chyle produces a characteristic milky appearance. Blood produces a color ranging from light carmine to black. Found in both tubes it indicates kidney origin; in second only, bladder neck or prostate. Hemoglobinuria produces a Burgundy red color. A microscope is necessary to differentiate. Blood in first tube and clear urine in second indicates stricture or ulceration in anterior urethra.

A persistently turbid urine usually contains pus and bacteria Pus alone will produce a heavy sediment on standing. If the first tube is turbid and the second clear the infection is in the anterior urethra. If both are turbid we may suspect the prostate or bladder. If a third tube is turbid trouble may be in the bladder or kidney. Thick, heavy pus settling rapidly indicates pyelo-nephritis; stringy pus which does not settle is associated with the alkaline urine of cystitis.

Thin, long shreds of gonorrhea are from the anterior urethra and contain many gonococci. Tadpole shreds are from the deep urethra; filmy broad shreds from the prostate. The microscope and other methods must also be used.

Exacting care must always be used or the results are worse than useless.

Heller's test for albumin should be used instead of the heat and nitric acid test. The ring is unmistakable while slight traces may escape notice in the latter.

Specimens from a 24-hour urine give the only true guide to abnormal conditions. The 24-hour amount and its specific gravity is often of more importance than the amount of abnormal constituents as in chronic nephritis.

Specimens should be examined as soon as received. If this is not possible a few drops of chloroform should be added to prevent decomposition and fermentation, which produce great changes in urines containing albumin and sugar.

Careful filtration of urine before examination is necessary. The quantitative test for urea should be done in all urines containing albumin, as urea elimination is more important than the amount of albumin.

The urine of infants may be secured by placing a few folds of gauze over the parts. The urine is squeezed from the gauze. The urine of a child should be clear, and until the age of 11 or 12, the specific gravity should not go above 1010–1012.

The paper was discussed by Drs. Ruggles, W. R. Ballard, Brown, Bradley, Mary Williams, Trumble, Baker, Hauxhurst.

H. N. BRADLEY, *Secretary.*

BRANCH

Regular meeting of the Branch County Medical Society was held April 19, 1911, in the Y. M. C. A. Rooms, seven of the Society being present.

Dr. S. B. Frankhauser, of Hillsdale, was present

as a guest of the Society. Wm. H. C. Loveridge, of Coldwater, read a very interesting paper on Medical Jurisprudence. Dr. W. H. Baldwin read an excellent paper on "Chronic Urethritis." These papers were followed by a general discussion.

The Society adjourned to meet in July, which will be our annual meeting.

S. SCHULTZ, *Secretary.*

DICKINSON-IRON

The annual meeting of the Dickinson-Iron County Medical Society was held April 12th at St. George's Hospital, Iron Mountain, Mich.

The following officers were elected for the ensuing year: President, L. E. Coffin, Iron Mountain; Secretary and Treasurer, S. E. Cruse, Iron Mountain.

S. EDWIN CRUSE, *Secretary.*

EATON

At the regular quarterly meeting of the Eaton County Medical Society held in Charlotte April 27, those present listened to an exhaustive paper on Diabetes by Dr. A. W. Adams, of Bellevue. The paper was practical and encouraging, as under the doctor's management several cases have been apparently permanently benefited.

Rather a larger attendance than usual, and all well paid for being present.

A. H. BURLESON, *Secretary.*

GENESEE

Since February 28, the Genesee County Medical Society has been holding meetings every two weeks. At each meeting two or more papers have been read, with free discussions following

The regular quarterly meeting was held April 25. Three amendments to the constitution and by-laws were adopted, and several more amendments were placed on file to be adopted at the next meeting, May 25.

The Society adopted a new Fee Bill as presented by the revision committee.

Dr. F. B. Miner was unanimously elected Treasurer, and Dr. H. L. Charles, of Swartz Creek, was elected a member of the Society. Dr. D. Jickling presented a paper on "Anterior Poliomyelitis," and Dr. Wheelock read a paper on "Eclampsia." Both papers were well received.

Resolutions of the Genesee County Medical Society on the death of Dr. Charles S. Wheeler, of Flushing:

Resolved by the Genesee County Medical Society that in the death of Dr. Charles S. Wheeler, of Flushing, a former President of this Society, we have lost one of our most active members.

His considerations of the feelings of others, his many acts of kindness, the assistance given to younger practitioners, and his solicitude for their welfare, endeared him to all who met him.

Many young members in this Society owe their start to the assistance that was not asked, but offered by him.

Dying at a time of life when he should have had many more active years ahead of him, this Society feels keenly its loss, and extends to his wife our sympathy in her great bereavement.

Resolved that a copy of these resolutions be placed among the records of this Society, and that a copy be sent to his wife and a copy to the *Flushing Observer.*

H. E. RANDALL,
M. W. CLIFT,
N. BATES,
Committee.

C. P. CLARK, *Secretary.*

HILLSDALE

Our County Society held its last meeting in Hillsdale April 28. The program was as follows: "A Plea for a Return to a Simpler and More Rational Therapy," Dr. D. W. Fenton, Reading; "Tuberculosis in Children," Dr. Herbert M. Rich, Detroit.

Both addresses were excellent and were thoroughly discussed.

The Committee on "Newspaper Advertising," appointed at the last meeting, reported the following resolution, which was adopted by the Society:

"*Whereas*, the use by newspapers of the names of physicians in connection with the accounts of cases of illness, operations, etc., is often objectionable in that it is unethical and of the nature of advertising. Therefore be it

"*Resolved*, That the newspapers of the County be requested by the Hillsdale County Medical Society to refrain from using the names of physicians in connection with accounts of illness, operations, etc."

B. F. GREEN, *Secretary.*

LAPEER

The Lapeer County Medical Society met at Hotel Melanie, North Branch, April 11, eight members of the Society being present: Drs. J. O. Thomas

and L. A. Traphagen, of North Branch; J. P Eggleston and P E. Martin, of Imlay City. W J. Kay and D. J. Obrien, of Lapeer, Dr. John S. Caulkins, of Thornville, and Dr. C. A. Wisner, of Columbiaville. Dr. C. D. Brooks, of Detroit, was present as guest of the Society, and read a paper on "Goiter." This paper was a very interesting and instructive one, and was thoroughly enjoyed by all the members present.

Dr. John S. Caulkins read a paper on "Who First Discovered the Circulation of the Blood." This was a very able paper, and showed great erudition and research by the doctor. After discussion of the papers read, the Society adjourned to meet July 11 at Lake Pleasant, near Imlay City.

C. A. WISNER, *Secretary.*

MANISTEE

Regular meeting of the Manistee County Medical Society was held in the parlors of the Ramsdell Hall, Tuesday evening, April 25, 1911. An excellent spread was served by the Committee in charge of refreshments, Drs. MacMullen and Ramsdell.

Members present: Drs. H. D. Robinson, L. S. Ramsdell, A. Payne, L. A. Louis, Harlan MacMullen, G. F. Knowles, R. J. Kirkland, J. A. Kelly, James A. King, E. S. Elles and J. A. Christenson.

Minutes of last meeting were read and approved.

This was the first regular meeting held since the death of our esteemed member, Dr. A. A. McLarty. Suitable resolutions of condolence were presented by Dr. James King, and it was moved and carried that a copy of these resolutions be sent to Mrs. A. A. McLarty, and that they be published in the two daily papers of our city.

Dr. H. D. Robinson read a very appropriate paper, "Eulogy of Dr. A. A. McLarty." It was moved and carried that this paper be published in the State JOURNAL.

Dr. A. S. Payne read one of the best papers ever presented to the Society on the subject of "Goiter." The doctor showed that he was well posted on the subject of goiter, and that he had spent no little time in preparing this most excellent paper. It was moved and carried that this paper be read at the annual meeting of the State Society, which is to be held in Detroit in September.

The greatest part of the evening was given over to a general eulogy of Dr. A. A. McLarty, and it was clearly shown by the talks given by members that in the death of Dr. A. A. McLarty our Society had lost a worthy member and the city had lost a beloved and exemplified citizen. Dr. McLarty had always taken a very active part, not only in the work of our local Society, but that of the State Society. We all deeply mourn the death of our esteemed and worthy member and colleague, Dr. A. A. McLarty.

J. A. CHRISTENSON, *Secretary.*

Dr. A. Arthur McLarty was born January 26, 1868, on a farm near St. Thomas, Ontario, and died March 26, 1911, of cancer of the stomach.

His parents were both of Scotch descent. His father died when the doctor was only fourteen years of age, leaving a wife and six children two older than the doctor. His mother, being a woman of more than ordinary ability, succeeded in keeping the family together and sent them to the district school, where each obtained a fairly good education. The doctor early expressed a desire to be a physcian, and his mother sacrificed many things so that he could gain his desire. He went from the district school to the High School in St. Thomas, Ontario, where he studied hard and graduated. He obtained a certificate to teach when he was nineteen years old, and taught school for three years, and thus obtained money to continue his studies.

He entered the Detroit College of Medicine in 1890, and his early training as a student enabled him to make good progress in the study of medicine, so that at the end of his second year he was chosen as an interne in Harper Hospital, which position he held for two years. He graduated in 1893, but remained at the hospital until the spring of 1894, when he located in Manistee, where he obtained a large practice. In his dealings with his brother practitioners he always tried to observe the rules of medical ethics, and never did he resort to any kind of trickery or underhanded methods to obtain business. In giving advice to his patients or their friends, whether in illness or for operations, it was the same as he would have any physician or surgeon give him if he were placed in the same position.

Probably few men who have taken up the profession of healing ever had a greater sympathy for a patient or took more personal interest in those who applied to him for help in their infirmities. Of no physician could it more truly

be said than of him, "he bore their sorrows and carried their burdens," and this was doubtless one of the causes contributory to his early dissolution.

He was of an extremely nervous temperament, and was unfortunately sensitive to every influence that assailed him. Combined with this was a rare conservativeness which always kept him from sudden leaps.

From his ancestors he inherited a frugality for which those who depend upon him have cause to be grateful.

He was a loyal friend and never a bad enemy. If there were those from whom he withheld friendship, there never was any hatred manifest toward such.

Regarding his religious views he often said, "I have sat by the bedside of many who consciously faced death, and I have always noted that sense of satisfaction and resignation in those who believed in a future life, and I know there must be something more for us all."

MONTCALM

We had an excellent meeting April 13th, with a large attendance. We had with us the president of the State Society, Dr. C. B. Burr, and Dr. Kampermann, of Ann Arbor, who presented a paper on the Surgery of Cancer of the Uterus. This was illustrated by lantern slides.

The rest of our program was carried out by our own members, and nearly all the members entered heartily into a discussion of these papers. At our next quarterly meeting we unite with the Ionia County Society in a midsummer picnic at one of the beautiful resorts for which these counties are noted.

One new member was received at this meeting.

H. L. BOWER, *Secretary.*

MONROE

At the regular quarterly meeting of the Monroe County Medical Society, held at Monroe, Michigan, on April 20, 1911, the following resolution was unanimously passed:

"Resolved that it is the sense of this Society that a re-registration tax of not to exceed two dollars be levied annually upon every practising physician in Michigan, for the support of the State Board of Registration in Medicine."

We feel that the State should support this Board, but as the Legislature has refused to make an appropriation, money must be raised for their support and good work. We hope that other county societies will take this step before the annual meeting of the State Society.

CHAS. T. SOUTHWORTH, *Secretary.*

OTTAWA

The May meeting of the Ottawa County Medical Society was held May 9 at the "Board Rooms" of the City Hall, Holland, Michigan.

A motion was made and passed that the President and Secretary be a committee to arrange time and place for the annual picnic to be held in June. Highland Park, near Grand Haven, was suggested as a suitable place for the picnic.

Dr. E. T. Brunson, of Ganges, read a paper on "Differential Diagnosis of Diseases of the Hip Joint." Dr. D. G. Cook, of Holland, read a paper on "Differential Diagnosis of Diseases of the Elbow Joint." Both papers were interesting and instructive and very freely discussed.

The next regular meeting will be on July 11, at the usual place.

G. H. THOMAS, *Secretary.*

WAYNE

At the meeting of the Wayne County Medical Society held Monday, April 10, the Surgical Section met. The subject was "Anesthesia," and Drs. E. G. Martin and J. D. Matthews took part. Dr. Martin read a paper on Gas-oxygen Carbon Dioxide Rebreathing Method and Dr. Matthews' paper was on Local Anesthesia.

Anesthesia: Carbon Dioxide–Gas-Oxygen Rebreathing Method

Dr. E. G. Martin's paper dealing with the most approved method of anesthesia, gas and oxygen-rebreathed (Report of Anes. Com. of A. M. A., St Louis, 1910) pointed out what seemed, from the authorities quoted and the reported laboratory investigations, to be a new, interesting, and important factor in the future of surgery, in its relation to shock and natural resistance. He demonstrated, through the investigations of Hamburger and Ewing, that even a fifteen minute administration of ether caused a progressive anemia of five and seven days' duration, thus lowering resistance and increasing the susceptibility to infection.

Through Yandell Henderson's extensive laboratory investigations, it was shown that a diminution of the carbon dioxide in the blood induced shock. Excessive pulmonary ventilation, as in rapid respiration from any cause, produces

symptoms of shock; patients are pale and weak and people say they are exhausted. Excessive artificial respiration (in a dog) for twenty minutes, causing extreme pulmonary ventilation, produces shock and a cessation of breathing, from which the heart finally stops; upon the administration of C O_2 gas, respiration is resumed and the dog lives.

In the administration of gas-oxygen-rebreathed, the writer maintained that we have found the ideal anesthetic; it combats shock through the rebreathing of the patient's own carbon-dioxide and decreases to a minimum the possibility of infection because it does not lower the patient's resistance. He termed this auto-stimulation.

By reports of his own and several hundred other cases he showed that this anesthetic could be administered from five minutes to over two hours with the utmost satisfaction. When complete relaxation was not obtained with the gas, ether was administered for five or ten minutes, returning to the gas, which then caused a continued relaxed condition. He finds a small dose of morphine and hyoscine, given about an hour preceding the operation, desirable. These drugs assist in allaying nervousness and in obtaining perfect relaxation.

In concluding the writer stated, that it was not his desire to propose this method as a panacea for all evils attendant upon anesthesia, but that if the clinical studies, experimental research, and conclusions of so many eminently reliable men were considered, it would seem that but little argument against its superiority as an anesthetic could be advanced.

A very simple, substantial and comparatively inexpensive inhaler was exhibited. This was Dr. Martin's own device.

Local Anesthesia

(Abstract of Dr. Matthews' paper:) It is not quite accurate to state that the infiltration of tissues produces anesthesia. Analgesia is the more suitable term, inasmuch as, though no pain is felt, the patient can often tell the nature of the instrument that is being used, because sensation is not completely lost. The analgesia is produced by the deadening of the superficial nerve endings.

There are two methods, namely: (a) the regional method, which requires an accurate knowledge of the nerve distribution in order to carry out the technique, and (b) the infiltration method, which does not require any such accurate knowledge. This latter method is very simple, no anatomical knowledge being necessary in order to carry out its technique satisfactorily.

These two methods are still in vogue in certain localities, but the method devised by Hachenbruch (a modification of the infiltration method) seems most practicable to the writer. It consists in injecting the fluid so as to encircle the field of operation completely. (This method was described in detail.) Great care must be exercised in selecting the local anesthetic solution. According to Brown the following features are necessary: (a) Lower degree of toxicity than cocain in proportion to anesthetic power; (b) sufficient solubility in water and capable of being sterilized; (c) non-irritating to the tissues; (d) compatibility with adrenalin; (e) rapid penetration of the mucosa and readily absorbable.

Compatibility with adrenalin is desirable because this drug prolongs the analgesic effect of any solution.

The solution most popular in some of the great clinics is novocain; beta-eucain, stovain and tropocain are really in the same category.

These papers were discussed by Drs. MacMillan, Hirschman, Harold Wilson, Tibbals, Kidner, Van Amber Brown and Straith.

Dr. Emil Amberg reported a case of mastoid disease in which transillumination had been of great diagnostic aid. He also exhibited and gave a practical demonstration of the instrument he had used.

Dr. Willis Potter made a few remarks on the usefulness of transillumination in Mastoid Disease.

At the meeting of the Wayne County Medical Society held Monday, April 17, Dr. Charles W. Hitchcock gave a short resume of the life and work of the late Dr. Leartus Connor, one of the oldest and most active members of the Society, and a man whose loss will be noticed by the Society in no small degree.

Dr. Hitchcock said:

"No ordinary loss is ours. We are met to mourn the going out, not of an ordinary member, who came and went with casual indifference, but the departure from among us of a man of great purpose and lofty integrity, one who ever rang true to high ideals, who went in and out among us, ever the highest type of manhood, the Christian gentleman, a man honored alike in local, State, and national councils. Where anything that deeply concerned the highest interests of the medical profession was discussed, Dr. Connor was

sure to be found. Where the problems of medical sociology were to be worked out, there was Dr. Connor busily active. No idler's dream was his; he never sought surcease from toil. He has but now laid aside his pen and answered the summons to enjoy the rest which he had so well earned and to which he had hoped to go, only when he *must* leave the work which he so loved.

"Leartus Connor was born January 29, 1843, in Orange County, New York. He died in Detroit early on Easter Sunday morning, April 16, 1911.

"The district schools, Wallkill Academy, and Williams College gave him his early training, the latter institution conferring upon him the degrees of A. B. in 1865 and A. M. in 1868. The discipline of teaching, the leisure hours of which were filled with scientific study and the earliest reading of medicine, well equipped him for the medical course which he followed at the University of Michigan (1867–68) and the College of Physicians and Surgeons of New York City for two years following, and here he gave much attention to diseases of the eye and ear, the specialty in which he was to be so well and widely known.

"He located first at Searsville, N.Y., but in 1871 came to Detroit to fill the chair of chemistry in the Detroit Medical College, subsequently teaching physiology and diseases of the eye and ear. He has been variously connected with the hospitals of Detroit, and became widely known as a medical editor.

"Dr. Connor believed it ignoble for any institution to lower its standards with an eye to possible commercial advantages, and steadfastly pleaded for a better profession through increasing standards of requirement. In private life or public, his ideals were high. He loved the genuine; he hated a sham. He was looked up to and respected for the high stand which he took. He served the American Medical Association both as vice-president and as trustee. He was president of the Michigan State Medical Society in 1902, and was pleased to find the profession of Michigan ready for the reorganization which he so warmly advocated, and which has conduced in no small degree to promote the prosperity which this Society at present enjoys.

"The American Academy of Medicine numbered him among its active workers, and he has contributed generously to general and special medical literature. He was active in many local bodies, religious, commercial and other. There were few worthy fields of active life where Dr. Connor's abilities and interest were not sought. His home during the life of Mrs. Connor was known for its delightful hospitality, which many medical men of State and national reputation have enjoyed. Dr. Connor is survived by two sons, both members of this Society.

"The local profession delighted to honor Dr. Connor but a few weeks ago upon completion of forty years of practice.

"A busy life is closed, its lessons are for us. The ancient proverb said, 'Seest thou a man diligent in his business? He shall stand before kings; he shall not stand before mean men.' And another proverb from the same source read, 'A good name is rather to be chosen than great riches,' and another, 'As he thinketh in his heart, so is he,' and so Dr. Connor was pure of life and lofty of purpose, of unswerving integrity, of high ideals, of unfailing industry, such an one as the King delighteth to honor. 'Integer vitæ scelerisque purus.'

"May we not soon forget this full, earnest, active, well-rounded life, which we do well to emulate.

"And may these poor words be spread upon our records as a slight tribute to Leartus Connor:

> " 'I care not in these fading days
> To raise a cry that lasts not long,
> And round thee with the breeze of song
> To stir a little dust of praise.
>
> " 'So here shall silence guard thy fame,
> But somewhere, out of human view,
> Whate'er thy hands are set to do
> Is wrought with tumult of acclaim.' "
>
> [TENNYSON: In Memoriam.]

Out of respect to Dr. Connor all further business was dispensed with, and the meeting adjourned to the following Monday.

The joint meeting was conducted by the Detroit Retail Pharmacists Association, with the President, William A. Hall, in the chair. Mr. Hall introduced Henry P. Hynson, Professor of Pharmacy in the Baltimore College of Pharmacy, as the speaker of the evening. Mr. Hynson's subject was "Present, Potent and Promising Activities for Promoting More Harmonious Relationship between Physician and Pharmacist." Mr. Hynson first spoke of the objectionable practices by both physician and pharmacist which stand in the way of such harmonious relationship. These he summed up as follows:

a. Such incompetency of the pharmacist as prevents him from meeting the reasonable demands of the physician and makes him incapable of properly selecting, caring for and dispensing medicinal substances in accord with modern methods and in conformity with more recent pharmaceutical accomplishments; the inability on the part of some physicians to appreciate creditable pharmaceutical attainments or to differentiate between the true and the false in pharmacy, also a want of care in estimating the comparative values of standard, properly manipulated products and those that are the reverse.

b. The unpardonable evil doing on the part of the unworthy pharmacist (which is much less common than is sometimes represented) known as substitution; unnecessary and inconsiderate specifications, and prescribing of commonplace proprietary mixtures by physicians.

c. Disregard of the wishes of the physician regarding the refilling of prescriptions by pharmacists, and unwillingness to protect the pharmacist against the unreasonable demands of the customer by the physician.

d. The advertisement and sale of "patents," nostrums and "Our Own" specifics by the pharmacist, and the recommendation of preparations in "original packages" and stock bottles of pills, tablets, etc., by physicians.

e. Reckless and non-emergency prescribing by pharmacists and unnecessary and commercialized dispensing by physicians.

f. Undignified and unwarranted subservience to "side lines" by the pharmacist, and the making of undue and very unbecoming claims on the pharmacist for his patronage by the physician.

The truth of all these assertions Mr. Hynson proved by history, by extracts from the writings of leading physicians and pharmacists, and evidence that came to him in a practical manner during twenty-five years' experience as a practising pharmacist.

The pure food law enacted in 1906 had, in the speaker's opinion, a great deal to do with improving many objectionable features which stood in the way of harmonious relationship between physicians and pharmacists.

Mr. Hynson spoke of the Pharmacopeia as the standard for pharmaceutical preparations, and said no effort should be spared in making it the very best.

As for non-official remedies he gave what he considered the ideal method of selecting the useful products of this class. Select an able committee to pass on these products, and then abide by its decision and use only those preparations which it recommends. Such a committee with the employment of such a method is, however, exactly what we have in the Council of Pharmacy and Chemistry of the A. M. A.

The speaker then continued and explained the admirable work that this Council of Pharmacy and Chemistry has done and is continually doing. It is giving both to the pharmacist and the physician, in a very condensed form, a list of the useful and efficient proprietary products. It remains only for the physician and pharmacist to use these and only these.

That pharmacists now are admitted into the American Medical Association as members has also, in the speaker's opinion, assisted materially in promoting more harmonious relationship between physician and pharmacist. He hoped that more pharmacists would avail themselves of this opportunity. He believed that a pharmacist could derive great benefits from this source, especially by subscribing for and reading the *Journal of the American Medical Association*. The pages dealing with "Therapeutics" and "The Propaganda for Reform" are full of valuable information for the pharmacist as well as for the physician.

In the discussion of this subject Dr. Chittick, Mr. L. A. Seltzer, Dr. L. J. Hirschman, Mr. A. L. Walker, Dr. Flemming Carrow, Mr. A. S. Parker and Mr. A. B. Stevens, of Ann Arbor, took part.

At the meeting of the Wayne County Medical Society, held Monday evening, April 24th, Col L. M. Maus, U. S. A., Chief Surgeon, Dept. of the Lakes, spoke on

Venereal Prophylaxis as Practised in the Army

Abstract: Venereal disease dates back to the ancients even as far back as the time of Moses. From that time to the present there has been going on a continual crusade against this disease. This crusade has consisted in moral persuasion, in endeavors to teach the public that intercourse is not necessary for a proper enjoyment of health, and in numberless other methods, all directed to uplift the moral tone of nations, and thus, in an ideal manner, wipe out these dreaded diseases. In spite of all, conditions during the present generation are worse than ever. Over two million people in the United States are suffering from syphilitic infection, 40% to 50% of the abortions are due to syphilis, and in a large proportion

of women operated upon for pelvic disease the causative factor is gonorrhea, very often innocently acquired from a guilty husband. All these statistics prove that the methods adopted to abolish this disease have been futile. It is silly to try and convince ourselves that by controlling the passions of youth we can remedy this evil. We must resort to some other method, and the only method at our command is personal venereal prophylaxis.

The Germans, twelve years ago, first practised this method. Metchnikoff, by inoculations on animals and man, demonstrated beyond question of a doubt that a 33% calomel paste will control syphilitic infection.

In the United States Army, a box of blue ointment and a solution of 10% argyrol or 5% protargol have been used for some time. Immediately after contact the former was to be applied to the glans penis, and with a medicine dropper the latter was to be dropped into the urethra. When used properly this method proved itself quite efficient, but it has fallen into disuse on account of being too cumbersome and too big to carry. Besides, the speaker did not think argyrol or protargol of much benefit, as it has been proven recently that the gonococci can live in strong percentages of these solutions for as long as twenty hours.

About a year ago the speaker undertook a series of experiments: Normal urethræ were inocolated with virulent gonococcus pus, and twenty minutes after a paste containing 30% calomel and 10% argyrol was injected, and no gonorrhea resulted. These same inoculations were repeated with 25% and 20% calomel plus the argyrol, and finally only a 20% calomel paste was injected thirty minutes after the inoculation. In no case did a gonorrhea develop. A Chicago doctor made these same experiments on Greeks, Italians, on private patients, on the eyes of a litter of puppies, and finally on himself with the same happy results. Seven hundred and fifty men in fourteen hundred contacts have used this calomel paste and only two cases of gonorrhea resulted. The speaker was of the opinion that in these two cases the paste was not properly used.

Calomel paste, therefore, is the great gonorrheal prophylactic, and the speaker is now having flexible tubes made, convenient for one injection with phenol 3%, calomel 25% and lanolin 72% (several of these tubes were passed around for inspection).

Dr. Maus said emphatically that he did not wish to convey the idea that education and moral persuasion should not be resorted to, but if these fail we are forced to use some personal prophylactic measure until such a time has come when the more ideal method shall have become practical.

The discussion of this subject was opened by Dr. Biddle, and continued by Drs. Keane, H. O. Walker, Stafford, Hirschman, C. S. Morley, Carstens, Yeamans, Rolland Stevens, Carr and Barlow.

Dr. Hugo A. Freund exhibited a specimen from a case of primary carcinoma of the liver causing non malignant stricture of the esophagus.

Dr. Wm. J. Cassidy reported two interesting cases of resection of the large bowel for carcinoma from the service of Dr. Angus McLean.

At the May 1 meeting of the Wayne County Medical Society the medical section met. Dr. C. M. Stafford read a paper on "Immunity Production in Acute Infection."

Dr. Stafford's paper will appear in full in the JOURNAL in an early number.

At the meeting of the Wayne County Medical Society, May 8th, Dr. W. E. Blodgett exhibited two interesting cases of bone syphilis. Radiographs of these cases, taken by Dr. George Chene, were shown, and these proved to be of great diagnostic value.

The paper of the evening was read by Dr. Angus McLean on

The Surgeon's Greatest Apprehensions as Learned from Three Years' Surgical Experience

Abstract: In all, there were 2036 cases operated upon during that time. The results obtained in these cases were in a measure due to the improvements in the technique of modern surgery and to the use of the newest laboratory methods, as well as the other aids to diagnoses, such as the cystoscope, the radiograph, etc.

The anesthetics used were ether, drop method, 94% nitrous oxygen, oxygen 4%, and chloroform 2%. Not a single death occurred.

Of 2036 patients operated upon, sixty-nine died, a mortality of 3.3%. Of the sixty-nine that died twenty-three were moribund on admission or when first seen, and died within twenty-four or forty-eight hours, either from intestinal obstruction, ruptured appendix, gall-bladder or bowel; eight died of exhaustion following operations for malignant disease which were only palliative; seven died of shock following injuries or burns; three of puerperal septicemia; one of typhoid fever; one of an infection by the bacillus

aerogenes capsulatus. These deaths, forty-three in all, can hardly be attributed to surgery, for in each case death was not due to surgery, but rather to the lack of surgery at the proper time or to an overwhelming injury.

The remaining twenty-six deaths must to a greater or lesser degree be attributed to surgical interference. Of these twenty-six, five died of peritonitis, four of embolus, two of cardiac thrombosis, six of post-operative ileus, one of cerebral hemorrhage, one of inanition following a resection of about two and one-half feet of bowel, one of acute pancreatitis, one of tetanus, two of hypothyroidism. There was a mortality directly due to surgical interference of twenty-six, a mortality of 1.2%.

The more important operations after which the deaths have occurred were taken up. The writer concluded that early operation, i. e., before complications are present, is the only sure way of reducing the mortality. As an example he gave appendix operations. In his series there were 265 early operations or operations in which drainage was not necessary, and 131 late operations or operations in which drainage was necessary. In the former he had no mortality, in the latter there was a mortality of 12%.

In all except one of the 17 cases of peritonitis moribund on admission, the infection started in the appendix.

This frightful mortality could have in a great measure been avoided had these cases been seen and operated upon early.

The greatest mortality after surgical interference is in the writer's opinion due to the two unavoidable conditions ileus and thrombus with a resulting embolus.

For ileus stomach lavage, and if this does not relieve the condition promptly, early enterostomy was advocated. Enemata in the writer's opinion do not benefit the condition very materially.

For thrombus and embolus treatment of any kind is of little avail.

Operations in the pelvis, in which the broad ligaments suffer considerable manipulation or even extra peritoneal operations in the pelvis, such as prostatectomies, were considered as being more liable to be followed by thrombus or embolus than operations elsewhere in the body.

The paper was discussed by Drs. H. O. Walker, Longyear, F. B. Walker, Robbins, James McMillan and Spitzley.

Dr. Alexander Blain was unanimously elected chairman of the surgical section for the year 1911–1912. By ballot Dr. G. H. Palmerle was elected secretary.

MEETINGS HELD AT THE HOME

On Saturday, April 29th, the Polyclinic Society of Harper Hospital met. Dr. J. N. Bell read a paper on "Cesarian Section."

On Tuesday, May 2nd, Ophthalmological and Otological Club met. Dr. Eugene Smith read a paper on "Embolic Choroiditis."

On Tuesday, May the 9th, the Detroit Oto-Laryngological Society met. This was the last meeting of the season. The program was as follows: 1. Retiring President's address, by Dr. E. L. Shurly. 2. European Experiences, by Dr. H. J. Hartz. 3. Election of officers. The election resulted as follows: *President*, Eugene Smith; *Secretary*, Emil Amberg.

The Society now has twenty-six active members and one honorary member.

Next year the meetings of this Society will take place on the third Tuesday of every other month.

A dinner was tendered the Society by the retiring President.

THE CAFE

The cafe at the building is now under the excellent management of Mrs. Nelson, for many years manager of the Palms Cafe. She serves an unexcelled table d'hote luncheon at very reasonable prices, from 12 to 2 P. M., with a limited but ample service of cooked to order food. Twenty or thirty men lunch at the building every day, and thoroughly enjoy the relaxation from work and the social intercourse with co-workers for which tasty and highly edible viands furnish the excuse. Some of the men play a game called "Rum," which is not as wicked as it sounds. The rest are learning it. Ten per cent. of the winners' surplus is now being donated to the House Committee, and the new auditorium is almost in sight. We would like to see every member who lunches down town get into the habit of lunching at the building. The food is as good and the prices as low as in any good restaurant, and we must support the cafe heartily (or hungrily, if you like) in order to maintain it on a basis giving a margin of profit to the manager. We want you to come at noon and at other times as well. Mrs. Nelson is prepared to serve meals in the evening for a few fellows who may drop in. If you want anything special, better order by

telephone. You may use the building for an evening card game or an hour in the library, with dinner there instead of elsewhere. We now have the facilities for giving banquets no matter how elaborate, and any out-of-town medical man can now be entertained as well, and we think better, in our cafe than anywhere in town.

LIBRARY NOTES

The library has been growing very rapidly. During the winter several large collections of books have come in, among them about 1750 from the late Doctor Connor, and some 700 from Parke, Davis and Company. The Connor collection included many files of journals, beautifully bound. These completed some of the sets which had been begun, and we now have some very valuable files.

A recent gift was that of a practically complete set of *American Journal of Insanity*, which Dr. Emerson has donated. All but the last ten years are handsomely bound, making one of the most valuable sets which we possess.

The reading room is supplied with 78 of the better class journals and a number of the less important. The library committee raised a sufficient sum to pay for these, and thus far nothing has been taken out of the general funds for the purchase of books, or for subscriptions to journals.

The collection of papers from the Mayo Clinic which has been published by Saunders, has been added to the library.

The work of sorting, accessioning and cataloguing the books is progressing slowly but gradually. It requires time to do this work properly, but when once done it is done for all time.

The library numbers not far from 7,500 non-duplicates. In the little room off the stack-room are nearly 3,000 duplicates. Many of these journals are bound journals, and will be used for exchange with medical libraries.

R. C. ANDRIES, *Correspondent.*

MICHIGAN REGISTRATIONS SINCE LAST REPORT

Name	Address	College	Qual.	Native of	Date
White, Perry Eugene	Flint	Northwestern Univ. Med School, Chicago, 6-4-08	Rec. with Illinois, Qual. No. 1	Hull, Iowa	3–17–11
Winchester, Walter Henry	Flint	College of Phys.and Sur., N. Y. City, Columbia Univ., 6-13-1900	Rec. with Wis., Qual. No. 1	River Falls, Wis.	3–23–11
York, Harry Jacob	Detroit	College of Phys. and Sur., N. Y. City, 6-8-04	Rec. with New York, Qual. No. 1	Huntingdon, Pa.	3–28–11
Thompson, Lewis Royer	Dowling	Geo. Washington Univ., Washington, D. C., 6–3–08	Rec. with Dist. of Col.	Collegeville, Pa.	3–30–11
Rowe, Allen Donald	Ann Arbor	Homeo. Dept. U. of M.	Board Exam., June, 1910	Mason, Mich.	3–31–11
Greco, Vincenzo	Detroit	Univ. of Palermo, Italy, 7–9–96	Rec. with New York, Qual. No. 1		4–7– 11
Thornburgh, Frank Colfax	Dundee	Homeo. Med. Coll. of Missouri, St. L., Mo., 4-14-04	Rec. with Missouri, Qual. No. 1	Numa, Iowa	4–24–11
Carling, William Monroe	Battle Creek	Medico-Chirurgical Coll. of Phil., Pa., 5–18–97	Rec. with New Jersey, Qual. No. 1	Trenton, N. J.	4–25–11

NEWS

Born to Dr. and Mrs. Wm. E. Blodgett, of Detroit, twin boys on May 18.

Dr. Burt R. Shurly, of Detroit, is the proud father of a son, Burt Russell, Jr., born March 14.

Dr. David M. Kane, of Sturgis, is studying in Berlin, and expects to be abroad about three months.

Drs. Ray and Guy L. Connor announce the removal of their offices from 91 Lafayette Boulevard to Suite 703 Washington Arcade, Detroit.

Dr. B. R. Schenck announces the removal of his office from the Washington Arcade to Rooms 606–610 Shurley Building, 32 Adams Ave. W., Detroit.

The Michigan State Board of Health on April fifteenth declared acute anterior poliomyelitis a dangerous communicable disease, and hereafter it must be reported to the Health Department by all physicians.

Dr. A. S. Warthin, of the Medical Department of the University of Michigan, delivered an address at a meeting of the International Association of Medical Museums, Chicago, April 13. Dr. Warthin is President of the International Association.

Additional Michigan physicians have been appointed by the President to the Medical Reserve Corps of the Army, to rank as First Lieutenants from April 24, 1911, as follows: Willis E. Chapman, Cheboygan; Vernon J. Hooper, Detroit; Peter Duncan MacNaughton, Calumet; John Vernon Frazier, Lapeer; Earnest W. Haass, Detroit; and to rank from April 27, Charles Franklin Smith, Whitehall.

Governor Chase S. Osborn sent the following names to the State Senate as his nominations for places on the State Board of Medical Registration and Examination: Dr. Henry C. Maynard, Hartford, to succeed himself; Dr. A. M. Hume, Owosso, to succeed Dr. Fleming Carrow, Detroit; Dr. Bret Nottingham, Lansing, to succeed himself; Dr. Joseph A. Crowell, Iron Mountain, to succeed Dr. Theodore A. Felch, Ishpeming, and Dr. A. W. Alvord, Battle Creek, to succeed himself. Nominations confirmed.

COMMUNICATIONS

ANN ARBOR, Michigan, May 2, 1911.

TO THE EDITOR::—

I desire to say just a word relative to the proposition of membership in the State Medical Society carrying with it membership in the A. M. A. I wish to say that I am in entire accord with the idea, provided certain rather radical changes can be made. I believe that the sum of six dollars per annum per member is ample to provide for all necessary expense pertaining to County, State, and National Association, including JOURNALS, Medical Defense, etc. Although the mathematical problem involved is rather complicated, yet I think I have been able to figure out the American Medical Association at the present time has to its credit a net sum of $200,000. Pray tell me for what and for whom this vast accumulation? Just which ones of our posterity are going to get a "dip in" at this? Just so, only on a smaller scale, in our own State Society. We are looking now continuously for the best possible investment of our surplus. Of course I believe in having money in the treasury. Certainly I do. But I maintain that there is a wide distinction between arrant commercialism, and a high scientific standard and a broad humanitarianism and the necessities of the case. Shades of Nathan S. Davis and Edward M. Moore! Could they but look in upon us.

JOHN A. WESSINGER,
Sec-Treas. Washtenaw County Medical Soc.

[The expenses of our State Society exceeded the receipts during 1910 by $38.26. We are doing more for our members this year, giving reprints to authors of original articles.—EDITOR.]

UNITED STATES POST OFFICE,
Battle Creek, Mich., May 3, 1911.

PUBLISHER JOURNAL MICHIGAN STATE MEDICAL SOCIETY, CITY.

Dear Sir:—Relative to the time-limit on subscriptions which have expired on January 1, 1911, on your JOURNAL, the regulations provide for the period of four months to renew such subscriptions, after which time postage must be paid at

the transient rate of one cent for four ounces or fraction thereof.

All subscriptions which are not paid by May 1, 1911, could not be sent as second-class matter after that date.

Respectfully,
(Signed) M. S. CURTIS, *Postmaster.*

BOOK NOTICES

Vaginal Celiotomy. By S. Wyllis Bandler, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 450 pages with 148 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5 net; half morocco, $6.50 net.

This book is devoted entirely to one subject. It is consequently a highly specialized digest of that subject. Nevertheless each step in the operation is so plainly described and illustrated that an experienced operator will have no difficulty in appreciating the many advantages of the Bandler methods.

The text is clear and to the point. No space is wasted in useless explanation leading up to the actual work under contemplation, but with a delicate consideration for an intelligent audience, a straightforward description of vaginal celiotomy is given in language as simple, clear, concise and brief as a thorough and comprehensive description of this comparatively recent maneuver can be given and secure to the reader a full understanding of the methods described.

The one hundred and forty-eight illustrations are simply indispensable. They not only perfectly illustrate the text and secure a good understanding of the complicated maneuver, but by their clearness, distinctness, and size, being mostly full-page, lend an artistic charm and scientific value otherwise unattainable.

As more and more attention is paid to vaginal celiotomy, this book will find favor with an ever increasing number of operators.

Diseases of the Stomach and Intestines. By Boardman Reed, M. D., illustrated. Third edition, thoroughly revised and largely rewritten. New York: E. B. Treat & Company, 241-243 West 23d Street, 1911. Cloth, $5.

The third edition of "Diseases of the Stomach and Intestines" by Boardman Reed, M. D., will no doubt be as eagerly sought after as the preceding two volumes have been.

The style in which it is written is lectures. Each chapter represents an exhaustive lecture on the subject considered. All phases are handled, many references are given, citations are numerous. All laboratory tests are carefully described. In fact, every effort is made to help one to arrive at a correct and positive diagnosis.

On treatment the book is especially strong. Suggestions for controlling each phase of the case are interspersed throughout the text, closely following the description of the condition; thus giving the reader the advantage of considering treatment at a time when his mind is filled with the case and when he is best prepared to receive it, also when he is especially in position to consider the rationality of the measures presented.

The subject treated in this work is coming more and more into prominence, and demanding more and more of the practitioner's time. He that neglects gastric and intestinal ailments, be they from dietetic, functional or organic causes, will find his patients gradually but surely seeking the advice of his colleagues. In this book so much of value is condensed that a perusal of its pages will be of enormous advantage both to specialist and general practitioner.

Plaster of Paris and How to Use It. By Martin W. Ware, M. D., New York, Adjunct Attending Surgeon, Mount Sinai Hospital, Surgeon to the Good Samaritan Dispensary, Instructor of Surgery in the New York Post-graduate School. Second edition, revised and enlarged. Price, cloth, square form, $1.25. De luxe leather, $2.50. Surgery Publishing Co., New York.

The exhaustion of the first edition and the persistent demand for this helpful book were the incentives for this second edition, which has been completely rewritten and enlarged, and thus its scope of usefulness has been greatly extended. Complete new drawings and marginal side-notes in red embellish the book, and ninety illustrations are used to more clearly put up to the eye of the reader the intent of its subject matter.

Such information as History, Materials, Manufacture of Bandages, Storage, Bandages of Commerce, Calot Plaster Bandages, the Immediate Preparation of Bandages, Application and Precaution, Removal of Bandages, etc., are all given under the contents of "The Plaster of Paris Bandages." Then follows such chapters as Application of the Plaster of Paris Bandage to Individual Fracture, Fractures of the Upper Extremity, Fractures of the Lower Extremity, Moulded Plaster of Paris Splints, Plaster of Paris in Orthopedic Surgery, etc., and all presented in such a comprehensive manner as to make this book of particular service to every doctor. The mechanical features of the book are decidedly striking.

MICHIGAN STATE MEDICAL SOCIETY

Corrections to the list of members published in the May Journal as shown by the records in the office of the Secretary on May 27, 1911. Having paid their dues for 1911, the stars have been removed from the names of the following members, and there has been no break in their good standing in the Society.

ANTRIM CO. MEDICAL SOCIETY

Long, Chas., Elk Rapids

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Lowry, G. W., Hastings
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Mohler, C. D., Hastings
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Russel, C., Hastings
Ryan-Roehrig, Alice M., Hastings
Sheffield, F. G., Hastings

BAY COUNTY MEDICAL SOCIETY

Ballard, S. L., Auburn
Flynn, M., Bay City
Jones, A. M., Bay City
Keho, John A., Bay City
Morse, H. Beach, Bay City
Scrafford, R. E., Bay City
Stone, A. T., Bay City
Urmston, Paul R., Bay City
Warren, E. C., Bay City

BENZIE CO. MEDICAL SOCIETY

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Gowdy, F. M., St. Joseph
Schwendener, Hattie A., St. Joseph

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Howe, L. W., Coldwater
Schultz, Samuel, Coldwater
Turner, S. R., Batavia
Whitmore, R. C., Quincy
Whitmore, H. W., Quincy
Wood, D. H., Coldwater

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Eggleston, E. L., Battle Creek
Foster, I. C., Albion
Gething, J. W., Battle Creek
Gorsline, C. S., Battle Creek
Hobbs, E. J., Galesburg
Holes, Jesse J., Battle Creek
Hoyt, A. A., Battle Creek
Kellogg, J. H., Battle Creek
Kingsley, A. F., Battle Creek
Marshall, E. J., Marshall
McGregor, Arch, Battle Creek
Miller, Eugene, Battle Creek
Nelson, A. W., Battle Creek
Mortensen, M. A., Battle Creek
Powers, H. A., Battle Creek
Putnam, W. N., Battle Creek
Riley, W. H., Battle Creek
Risley, E. H., Los Angeles, Cal.
Sands, T. E., Battle Creek
Shipp, W. S., Battle Creek
Sleight, R. D., Battle Creek
Staines, Carrie, Battle Creek
Stone, R. C., Battle Creek
Stoner, L. B., Battle Creek
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Sackett, C. S., Charlotte
Schilz, E. A., Grand Ledge
Stealy, A. R., Charlotte
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Martin, J. B., Traverse City
Minor, E. B., Traverse City
Moon, W. E., Traverse City

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Kirton, J. R. W., Phoenix
Lee, S. S., Osceola
Maas, R. J., Houghton
McDonald, N. S., Hancock
Moore, J. W., Atlantic Mine
Orr, G. W., Lake Linden
Quick, J. B., Kearsarge
Roche, A. C., Kearsarge
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Ruonavara, H. H., Calumet
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Shumway, F. W., Lansing
Shaw, E. F., Will amston
Turner, F. N., Webberville

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Langford, T. S., Jackson
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DenBlyker, W., Kalamazoo
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Rowe, M. J., Kalamazoo
Spencer, C. M., Free Soil
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Fairbanks, C. H., Grand Rapids
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Rogers, John R., Grand Rapids
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Doherty, V. C., Grand Marias
Lunn, W. B., Marquette
Sheldon, H. W., Negaunee
Toms, C. B., Marquette
Van Riper, P., Champion

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Foster, T. J., Scottville
Kerwin, E. J., Ludington
Martin, W. C., Scottville
Switzer, G. O., Ludington

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Brunson, E. T., Ganges
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Leenhouts, A., Holland
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Walkley, W. S., Grand Haven
Winter, W. G., Holland

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Longstreet, Martha, Saginaw
McLean, Neil, Saginaw

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Ruggles, F. S., Byron
Stewart, L. B., Chesaning
VanLiew, V. C., Lennon
Willson, P. S., Owosso

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Callery, A. L., Port Huron
DeGurse, T. E., Marine City
Derck, W. P., Marysville
Dunn, R. J., Port Huron
Inches, J. W., St. Clair
Thompson, A. E., St. Clair
Wright, W. G., Yale

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Boet, Frank, Buckley
Brodner, R., Cadillac
Gruber, J. F., Mesick
Harper, A. W., Manton
Huntley, U. F., Manton
McManus, E. A., Sherman
McMullen, B. H., Cadillac
Miller, C. E., Cadillac
Miller, G. D., Cadillac
Mills, R. E., Boon
Moore, S. C., Cadillac
Morgan, Edw., Manton
Ralston, David R., Cadillac
Ricker, O. L., Cadillac
Smith, W. J., Cadillac
Stickley, A. E., Mesick
Purdy, C. S., Wexford
Wallace, W. B., Manton
Wardell, J. M., Cadillac

TUSCOLA COUNTY MEDICAL SOCIETY

*Clark, C. W., Caro
*Johnson, O. G., Fostoria

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Barrett, A. M., Ann Arbor
Baskett, L. W., St. Peters, Minn.
Blair, William, Ann Arbor
Breakey, J. F., Ann Arbor
Breakey, W. F., Ann Arbor
Britton, H. B., Ypsilanti
Camp, Carl D., Ann Arbor
Canfield, R. B., Ann Arbor
Carr, E. I., Ann Arbor
Clifford, R. A., Ypsilanti
Combacker, L. C., Byron Hot Springs, Calif.
Cowie, D. M., Ann Arbor
Crawford, Katherine L., Oakland, Calif.
Cummings, H. H., Ann Arbor
DeWitt, L. H. S., Ann Arbor
DeNancrede, C. B. G., Ann Arbor
Gates, N. A., Ann Arbor
Georg, C., Jr., Ann Arbor
Georg, C., Sr., Ann Arbor
Griffin, O. A., Ann Arbor
Gulde, Andrus, Chelsea
Haythorn, S. R., Pittsburg, Pa.
Heitger, Joseph D., Bedford, Ind.
Herdman, E. K., Ann Arbor
Hewlett, A. W., Ann Arbor
Honeywell, B. H., Ann Arbor
Honey, R. B., Dexter
Huber, G. C., Ann Arbor
Hull, G. M., Ypsilanti
Joyce, T. M., Ann Arbor
Kamperman, G. A., Ann Arbor
Keating, J. W., Ann Arbor
Kline, G. M., Ann Arbor
Klingman, T., Ann Arbor
Laws, C. S., Whitmore Lake
Leland, R. G., Mendon
Loree, I. D., Ann Arbor
Lynds, J. G., Ann Arbor
Marshall, Mark, Ann Arbor
McKenzie, Robert G., Ann Arbor
Merkel, Chas. W., Ann Arbor
Mesic, A. G., Milan
Murray, E. B. (Miss), Ypsilanti
Noble, Kenneth, Milan
Oberlin, Emily Myers, Philadelphia, Pa.
Pearson, H. J., Ann Arbor
Peterson, R., Ann Arbor
Pettis, J. H., Ann Arbor
Pyle, D. F., Milan
Roth, George B., Ann Arbor
Scheurer, P. A., Manchester
Schmidt, H. W., Chelsea
Slocum, George, Ann Arbor
Solis, J. C., Ann Arbor
Unterkircher, Charles F., Saline
Uren, C. T., Ann Arbor
Van Zwaluwenberg, J. G., Ann Arbor
Vaughan, V. C., Sr., Ann Arbor
Waldron, F. R., Ann Arbor
Wallace, J. B., Saline
Ward, E. L. G., Ann Arbor
Warren, L. F., Ann Arbor
Wessinger, J. A., Ann Arbor
Wood, Neil N., Ann Arbor
Wylie, W. C., Dexter
Yutzy S. M., Ann Arbor

WAYNE COUNTY MEDICAL SOCIETY

(Address Detroit, unless otherwise stated.)

Abbott, A. W., 266 Putman Ave.
Andries, J. H., 474 Brush
Barlow, P. A., 1401 Mack Ave.
Barrett, D. N., 402 Wash. Arcade
Baruch, J. B., 334 Fort St., E
Begle, H. L., 706 Gas Office Bldg.

Bernstein, A. E., 436 St. Antoine
Blodgett, W. E., 602 Fine Arts Bldg.
Buesser, F. G., 310 Wash. Arcade
Campbell, Duncan, 57 Fort St. W
Canfield, G. M., 270 Wood Ave.
Carrow, Flemming, 503 Wash. Arcade
Chaney, Willard, 121 W. High
Clark, J. E., 608 Wash. Arcade
Connor, Guy L., 91 Lafayette
Cooley, T. B., 602 Fine Arts Bldg.
Cooper, J. M., 610 Fine Arts Bldg.
Cowan, A. L., 549 14th Ave.
Cree, W. J., 504 Alexander W.
Cumming, R. B., Wayne
Davis, C. R., Blain and Woodward
DeForest, Alice M., 134 High st., E
Dodds, J. C., Fine Arts Bldg.
Duffield, Francis, 248 Seminole
Fechheimer, M. A., 403 Gas Office Bldg.
Forbes, E. B., 271 Woodward Ave.
Gailey, J. K, 415 Wash. Arcade
Garner, H. B., Gas Office Bldg.
Gorenflo, A. H., 602 Breitmeyer Bdg.
Gratton, J. H., 416 Hamil
Griffith, A. J., Roosevelt & Warren
Harrison, J. W., 429 E. Gr. Boulev'd
Hart, T. M., 438 Trumbell St.
Haskins, Mary G., 270 Woodward
Herbert, Leo H., 2225 Jefferson, W
Hensel, R. D., 111 Park St.
Howell, D. R., Eloise
Hoops, G. B., 347 Messic
Holden, H., Trenton
Jenks, N. R., 271 Woodward Ave.
Johnson, A. H., 209 Canfield E.
Kiefer, G. L., 89 E. Forest Ave.
Knaggs, C. W., 1560 Gratiot Ave.
Lachajeuski, S. J., 934 St. Aubin
Langlois, N. T., Wyandotte
Lau, O. H., 56 Garfield Ave.
Layton, M. A., 1980 W. Fort St.
Lee, John, 317 Cass Ave.
Linn, Robert S., 594 Cass Ave.
Livingstone, P. J., 307 Fine Arts
Loucks, R. E., 271 Woodward Ave.
McCormick, F. T., 501 Wash. Arcade
McDonald, G., 3062 E. Gr. Boulevard
McVeigh, J. A., 406 Fine Arts Bldg.
Maguire, F. J. W., 778 Jefferson Ave.
Matthews, J. D., Fine Arts Bldg.
Merdian, W. J., 121 St. Aubin
Millard, Frank A., 271 Woodward Avenue
Moody, P. E., 1491 Woodward Ave.
Palmerlee, G. H., 410 Wash. Arcade
Parker, Delos L., 559 Jefferson Ave.
Parker, B. D., 306 Fine Arts Bldg.
Rieman, W. H., 476 Elmwood
Roach, John J., 2107 Jefferson Ave.
Sanderson, S. E., 147 Warren Ave. E.
Schwanz, M. J., 404 Whitney Bldg.
Silver, Maxwell, E., 730 Brush St.
Spillaine, T. F., 403 Stevens Bldg.
Starrs, T. C., 250 15th St.
Sterling, A. M., 271 Woodward Ave.
Tapert, R. T., 353 Riopelle St.
Tiffin, W. E., 1870 Woodward Ave
Tufford, J. C., 702 Woodward Ave.
Wagner, G. W., Adrian
Waldeck, Geo. Matthew, Chamber of Commerce
Walker, Thaddeus, 33 High St., E.
Weed, O. B., 59 Clifford St.
White, J. V., 57 W. Fort St.

NEW OR REINSTATED MEMBERS

Since April 25, the following new or reinstated members have been added to the list. Gratiot and Charlevoix Counties were reorganized May 25 and 26. The list of members will be published later.

BRANCH

Sears, Carl, Quincy

CASS

Irwin, D. H., R. 6, Marcellus
Tonkin, E. W., Edwardsburg

CHEBOYGAN

Marks, C. B., Cheboygan

DICKINSON

Brasseur, J. B., Norway
Cruse, S. E., Iron Mountain

EMMET

Moorman, E. R., Pelston

GENESEE

Charles, H. L., Swartz Creek
DeSomoskeoy, V. H., Flint
McGregor, J. C., Flint

GRATIOT

Gardner, C. B., Alma

HURON

Young, Sheldon B., Caseville

INGHAM

Rulison, J. G., Lansing

KALAMAZOO

Ames, Edward, Kalamazoo
Bills, W. H., Allegan
Heasley, H. W., Burnips Corners

KENT

Beel, H. J., Grand Rapids
Fabian, J. J., Grand Rapids
Herrick, O. E., Grand Rapids
Young, R. A., Grand Rapids

LENAWEE

Westgate, Clarence, Weston

MACOMB

Bush, H. J., Armada
Seaman, J. H., New Haven

MANISTEE

Kirkland, R. J., Manistee

MARQUETTE–ALGER

Lindgren, I., Ishpeming

MECOSTA

Watley, Sam, Blanchard

NEWAGO

Denike, A. J., Hesperia

SAGINAW

Crane, B. F. A., Saginaw
Edelman, F. W., Saginaw
Leitch, A. E., Saginaw
McMeekin, J. W., Saginaw

ST. CLAIR

Ross, Geo., Capac
Burtless, W. E., St. Clair

TRI–COUNTY

Babcock, E. R., Kalkaska

WASHTENAW

Backus, L. C., Ann Arbor
Sample, John T., Baltimore, Md.

WAYNE

(Detroit unless otherwise stated)

Arndt, O. H., 6 Jay St.
Adams, J. R., 185 Chene St.
Agnelly, E. J., 552 Dix. Ave.
Brinket, A. J., 236 Seyburn Ave.
Burke, F. B., 121 Willis W.
Baker, W. R., 1411 Fort St. W.
Brown, W. C., 1026 Mt. Elliott Ave.
Chittick, W. R., 270 Woodward Ave.
Currie, E. M., 1697 W. Fort St.
Duncomber, D. A. C., 964 Mack Ave.
Dreyer, A. W., 1609 Michigan Ave.
Ellis, F. H., 325 Kercheval Ave.
Estabrook, B. V., 79 Greenwood Ave.
Greco, Vincent, 209 Champlain St.
Gunsolus, K., 20 Henry St.
Henderson, W. R., 515 St. Auben Ave.
Kilbourn, K. E., 472 Canton Ave.
Kulick, S. A., 1201 Junction Ave.
Kipp, A. W., 535 Chene St.
LaFerte, A. D., 346 Jefferson Ave.
Levin, N. P., 168 Montcalm St.
McClurg, David, 2759 Woodward Ave.
Palmer, H. G., 420 Baldwin Ave.
Price, W. H., 411 Wash. Arcade
Palmer, R. J., 1 Marston Court.
Robinson, Gilbert, 1504 Mt. Elliott Ave.
Radzinski, A. J., 1519 Michigan Ave.
Raible, H. F. 510 Joseph Campau Ave.
Rogers, W. H., 1541 Mack Ave.
Roberts, F. J., 852 Grandy Ave.
Reed, W. J., 703 Wash. Arcade
Smith, T. H., 184 W. Alexander Ave.
Schnell, A. E., 168 Kercheval Ave.
Shellfish, Jos., 247 Adams Ave.
Scriber, W. E., 202 Forest Ave. E.
Sherman, A. T., 738 Trumbell
Scriber, Geo. H., 1112 Mt. Elliott Ave.
Steinbrecher, A. H., 508 Fine Arts Bldg.
Sigel, Tobias, 40 Howard St.
Sanderson, P. G., 270 Woodward Ave.
Sadowski, R. J., 1485 Michigan Ave.
Weitenberner, E. J., 952 Russell St.
Young, E. B., Grace Hospital